

**United in Defeat**  
**The causes and consequences of identity  
fusion in football fans**



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## Abstract

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What motivates extreme pro-group action, such as heroism and self-sacrifice on the battlefield? Despite much scholarly attention in recent years, the question is yet to be fully explained. Recent research suggests that shared dysphoric experiences are one way of generating identity fusion, a visceral sense of 'oneness' between individual and group that has been shown to motivate willingness to fight and die for the group. Using two special populations - British and Brazilian football fans - this thesis investigates the causes and consequences of fusion. Football fan cultures are diverse, globally popular, and ripe for examining intergroup conflict. This thesis focuses on two related components of the 'shared dysphoria pathway' to fusion: emotional arousal (e.g. watching one's team suffer a particularly bitter defeat) and the sense of 'self-transformativeness' that ensues from intense, shared experiences. Across four studies, it is shown that for some individuals, sharing the agony of defeat can be emotionally and physiologically arousing to such a degree so as to transform their sense of personal identity. In turn, this leads to a more porous boundary between group and individual identities, i.e. individuals become 'fused' with their groups. Fused people are documented as engaging in some of the most extreme and potentially dangerous social behaviours we know. Two related consequences of fusion are examined: extreme pro-group action and outgroup hostility. Football hooliganism is a persistent, global problem, which is addressed in a fifth study. This thesis refutes past work suggesting that hooligans are social misfits, instead contending that hooligans are especially fused to their group and motivated to defend their 'brothers-in-arms', which results in outgroup violence. These findings suggest that a more thorough understanding of the causes and consequences of fusion could conceivably impact a great many areas, perhaps most importantly conflict resolution and policies relating to intergroup conflict.



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## Abbreviations

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AUCg	Area under the curve graph
BIRG	Bask in reflected glory
CONMEBOL	<i>Confederación Sudamericana de Fútbol</i> (translation from Spanish: South American Football Confederation)
CORF	Cut off reflected failure
DV	Dependent variable
EEG	Electroencephalogram
ERC	Economic Research Council
FIFA	<i>Fédération Internationale de Football Association</i> (translation from French: International Federation of Association Football)
HRV	Heart rate variability
IPD-MD	Independent Prisoner's Dilemma – Maximising Difference game
IV	Independent variable
M	Mean
PANAS	The Positive and Negative Affect Schedule
RA	Research assistant
RSA	Respiratory sinus arrhythmia
SAS(-RS)	Social Adjustment Score (- Reverse Scored)
SD	Standard deviation
SE	Standard error
SIT	Social Identification Theory
UEFA	<i>Union of European Football Associations</i>
UFRN	<i>Universidade Federal do Rio Grande do Norte</i> (translation from Portuguese: Federal University of Rio Grande do Norte)
WEIRD	Western, Educated, Industrialised, Rich, and Democratic
WILD	Worldly, Independent, Local, and Distinctive

# Chapter 1

## Introduction

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Why do some people feel so passionately about the other people in their group that they are willing to enact extraordinary feats of self-sacrifice? Social identification theorists offer one explanation for group cohesion; it is the emergence of a psychological state that capitalises on an evolved coalitional psychology, which addresses the challenges of complex group living and intensified agriculture (Whitehouse and Hodder, 2010; Whitehouse and Lanman, 2014). A limitation of this approach concerns the hydraulic nature of personal and group identities, such that extreme pro-group sentiments and actions, such as self-sacrifice for the group, are relatively poorly explained. The identity fusion perspective offers a possible solution to this problem. This explanation for group cohesion outlines a distinct and more involved form of group alignment, which is currently thought to hinge on evolved tendencies for psychological kinship, the challenges of big-game hunting, and the possibility of free-riders (Whitehouse, 1996; Swann et al., 2014a; Whitehouse and Lanman, 2014). What are the cognitive processes underlying group bonding? What are their causes and triggers? And what are their effects on individual and group behaviour? Here, a deeper understanding of these questions is sought. In particular, this thesis investigates two key causes and two consequences of identity fusion: a sense of self- transformativeness and physiological arousal; and extreme pro-group action and outgroup hostility.

This thesis draws on two of the most influential theoretical advances in anthropology and psychology in recent decades. The first of these is Whitehouse's modes theory, which originates from social anthropological

studies of religion but now extends to both cognitive domains and non-religious contexts. (Whitehouse, 2004; Whitehouse, 2008; Whitehouse, 2012; Whitehouse and Lanman, 2014). Modes theory outlines the relationship between high arousal, low frequency rituals (the dysphoric mode) and low arousal, high frequency rituals (the imagistic mode) (Whitehouse and Laidlaw, 2004; Whitehouse and Hodder, 2010; Atkinson and Whitehouse, 2011). This body of work suggests that shared dysphoric experiences are one way of triggering intense group cohesion and, in turn, extreme pro-group action.

In recent years, Whitehouse's concept of 'intense group cohesion', situated in empirical observations, has found theoretical support in the identity fusion approach (Swann et al., 2012; Whitehouse et al., 2013; Whitehouse and Lanman, 2014). Identity fusion is a more recent theory developed by Swann and colleagues that describes a visceral sense of 'oneness' with a group and its composite members, capable of motivating extreme pro-group behaviours (Swann et al., 2009; Swann et al., 2012; Swann and Buhrmester, 2015). This is due to the porous boundary between the personal and social selves of highly fused individuals and the fact that both personal and social selves of these highly fused individuals may be simultaneously activated (Swann et al., 2010b). Fusion theory fills an explanatory gap, left vacant by previous group alignment perspectives, by specifying some of the key antecedents of extreme pro-group behaviours (Swann and Buhrmester, 2015). Extreme pro-group behaviours include a willingness to make personal sacrifices for the group, even the ultimate sacrifice of one's own life (Swann et al., 2010a; Swann et al., 2014a; Whitehouse et al., 2014; Whitehouse et al., 2017).

In turn, Whitehouse and colleagues have been investigating the causal paths to fusion using modes theory, specifically the dysphoric pathway to fusion (Whitehouse and Lanman, 2014; Jong et al., 2015; Newson et al., 2016). This thesis thus unites modes theory and the identity fusion approach using the same perspective outlined by Whitehouse & Lanman (2014). In a series of empirical investigations using a globally expansive, highly variable, and readily accessible sample of individuals - football fans – we found broad support for (a) the shared dysphoria pathway to fusion and (b) fusion’s role in extreme pro-group action and outgroup hostility<sup>1</sup>.

## **1.1 Thesis structure and major research questions**

In this chapter, I introduce the major research questions and outline the topic broadly. I also identify novel contributions made by the thesis in terms of theory, methodology, and collaborations. The next two chapters are also introductory in nature. Chapter 2 presents the theoretical approach from which the research questions have been developed and which supports the data chapters.

Specifically, Chapter 2 is dedicated to fusion theory and its relationship to modes theory in explaining group cohesion. It also explains the theoretical context behind identity fusion, its relationship to identification, the purported causes of fusion (i.e. a sense of self- transformativeness following dysphoric events and emotional arousal), and the consequences of fusion (i.e. extreme pro-group action and outgroup hostility). Chapter 2 concludes by presenting the thesis’ methodological approach and an overview of the research questions.

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<sup>1</sup> Unless otherwise stated, ‘football’ in the thesis refers to modern, association football or ‘soccer’, as it is called in the USA.

The second part of the literature review (Chapter 3) frames the cultural context of the research. This is achieved through reviews of both psychological literature on sport fandom and group alignment, and an ethnographic review of the two cultures under study: British and Brazilian football fans. The first half of Chapter 3 provides a broad framework of past research on group alignment among sports fans, and describes the scope for fusion theory in studies of extreme fandom. The second half contextualises the empirical studies in the thesis with a literature review of football fan cultures in Britain and Brazil, justifying these cultures as particularly relevant contexts from which to answer the major research questions.

Chapters 4 – 8 are empirical, starting with construct validation among British football fans and an exploratory study of paths to, and outcomes of, identity fusion (Chapter 4). As a first step, in this chapter we<sup>2</sup> investigate whether football fans report fusion to their clubs and fellow fans and, if they do, whether fans of the most successful or least successful teams tend to be the most fused. We then use self-reported scores of emotional difficulty and coded responses to qualitative accounts of emotional intensity to test whether affective arousal underlies the relationship between team fate and fusion. We also investigate whether relational ties are able to sufficiently shape an individual to the extent that leads to fusion with the wider group. Next we tackle consequences of fusion outlined in previous research and apply them to this novel population – do fused football fans report holding more sacred values about their club, strip and chants than weakly fused fans? Are fused football fans really willing to sacrifice themselves for other fans? Finally we tested whether

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<sup>2</sup> Authorship contributions for data chapters are explained in Appendix C.

psychological kinship – the perception of familial ties between a group of unrelated individuals – mediates these relationships.

Our findings suggest that the strength of bonds reported by highly fused football fans is powerful enough to generate the endorsement of extreme pro-group behaviours, even sacrificing one's life for other fans. When viewed in this way, a more thorough understanding of the causes and consequences of identity fusion could conceivably impact a great many areas, perhaps most importantly conflict resolution and policies relating to inter-group conflict. How might responding to a highly fused group with force or violence 'transform' an individual and what consequences does this have for existing levels of fusion? Chapter 5 tests the role a sense of 'self- transformativeness' plays in the emergence of fusion and group loyalty. We also test the modes hypothesis against an alternative hypothesis: cognitive dissonance causes increases in fusion. Presumably, past investment in a particularly unsuccessful club would lead to cognitive dissonance. As people cannot change their past behaviours (i.e. investing heavily in a losing team) to reduce dissonance, they must change their attitude (i.e. their level of group commitment) to justify their actions. We use past investment as a predictor of group loyalty among British football fans and contrast its explanatory power with identification and identity fusion. We then investigate paths to fusion by testing the role played by transformativeness following dysphoric and euphoric events, controlling for past investment. Does fusion predict group loyalty when accounting for past investment in the club? Are dysphoric self-transformative events as strong (or stronger) predictors of fusion as euphoric ones?

The next two chapters (6 and 7) explore the transformative component of the dysphoric pathway to fusion in more detail. How long does it take to be sufficiently shaped or transformed by an event for it to be able to alter fusion levels? Chapter 6 investigates fusion to nation, self-transformativeness, and ingroup biases in a longitudinal, online survey design following the 2014 World Cup. We select England, Brazil, and a comparative nation, Spain, for our analyses, all of which suffered acute losses in football terms. Does fusion to one's nation remain stable following a national defeat? If fusion does increase for some individuals, what role might self-transformativeness play in these increases? Do fused individuals demonstrate ingroup biases and are these resilient to dysphoric events? Finally, are these results consistent across cultures or variable? Chapter 6, though survey based, provides impetus for future research to develop methods for analysing the effects of national sporting events on social action. However, national identity is only symbolically related to the World Cup. We sought to address this in a second, field-based study, which targeted World Cup supporters directly.

Chapter 7 also examines the 2014 World Cup, but is concerned with fusion to Brazilian and English national teams in a longitudinal, field-based experimental design. Having measured dysphoria using self-reported emotional difficulty, coded responses to qualitative responses, and long-term measures of team fate (Chapters 4 and 5), here we seek a more immediate measurement of dysphoria at live games. We use self-reported measures of affect as well as novel physiological measures – heart rate (HR), salivary cortisol production, and respiratory sinus arrhythmia (RSA). Extending work from Chapters 5 and 6 regarding transformativeness' role in identity fusion, we also test how long it

takes to become sufficiently 'transformed' by a dysphoric event to impact fusion levels. Finally, we introduce the thesis' first measure of personally costly outgroup hostility. Is fusion to one's national team stable over time, and how does this relate to self-transformativeness, psychological, and physiological affect? What is it about high-arousal events that transform us, and can we test this physiologically?

Is fusion a good predictor of outgroup hostility? And what are the differences and similarities between English and Brazilian cultural contexts?

Chapter 8 also examines outgroup hostility, but extends Chapter 7 by not only using an economic game but considering real life outcomes of fusion in Brazilian *torcidas organizadas* (members of super-fan groups, often described as Brazil's football hooligans). This chapter provides a starting point for the development of intervention strategies to reduce football-related violence by tackling the following questions: can fusion predict violence among football hooligans? Precisely what is it about fusion that motivates self-sacrificial behaviours such as fighting with threatening outgroups? Are there nuances in the outcomes of fusion to one's club (categorical ties), as opposed to fusion to one's fellow fans (relational ties), in terms of physical violence toward outgroups? And what makes some highly fused groups engage in inter-group conflict but not others?

Finally, in Chapter 9, a discussion of the data chapters brings together the key findings in relation to the previous literature review. Here I draw together my research findings on the shared dysphoria pathway to fusion, which incorporates affective arousal and a self-transformativeness, and two causes of fusion; extreme pro-group behaviours and outgroup hostility. I also discuss

over-arching limitations of the thesis, implications, and directions for future work, particularly directions toward conflict resolution. I close with the post-doctoral studies that this thesis leads to.

In sum, this thesis' primary objectives are: to test the shared dysphoria pathway to fusion; investigate the extreme pro-group behaviours and outgroup hostility associated with fusion; and to do so using football fans, a natural population that is global, diverse, engages in extreme pro-group behaviours (e.g. football hooliganism), and is relatively easily accessible.

## **1.2 Novel contributions**

This thesis makes nine novel contributions. First, it applies both the fusion construct and Whitehouse's modes theory to a new context: sport fandom. Second, we provide the first experimental evidence that 'self-transformativeness' following dysphoric events constitutes part of the causal pathway to fusion. Third, we test a physiological measure, previously unexplored in relation to fusion or modes theory; cortisol production. Fourth, we further the understanding of identity fusion's role in extreme pro-group behaviours and outgroup hostility in the real world, i.e. among Brazilian football hooligans.

Fifth, we contribute to reducing the WEIRD problem, which is well documented in psychology (Henrich et al., 2010b; Henrich et al., 2010a; Henrich et al., 2010c) and shows that the majority of research focuses on Western, Educated, Industrialised, Rich, and Democratic samples. This poses a problem when it comes to generalising results beyond Western under-graduate populations (see 2.3.2 and 3.2.1). This thesis employs a cross-cultural methodology, including Brazilian (Chapters 6, 7, and 8), English (Chapters 4, 5, 6,

and 7), and Spanish (Chapter 6) nationals. It is also multi-disciplinary and includes multi-method designs, making for more objective and more generalisable results compared to research relying solely on psychology undergraduates as participants.

Football fans are interesting not just as a globally distributed (and potentially less WEIRD) sample, but for the traits they share with other highly committed groups of individuals: their deeply emotional bond with the group, a pro-group mentality, and personally costly pro-group behaviours, e.g. time and monetary investments, and fighting in the name of the group. This thesis' sixth novel contribution is that football fans share and acknowledge group membership with thousands of other fans, so can be used to test different forms of group alignment, providing results that are likely to be applicable to other social groupings. These findings are especially relevant to male-dominated or male-led groups involved in ritualised collective action. These groups often play prominent roles in the social web, i.e. armies, military insurgent groups, or political parties (e.g. the House of Commons), making them particularly interesting.

Seventh, there is a notable dearth of cognitive-evolutionary articles that empirically investigate sport fandom, particularly association football fandom, so this research has the potential to lay the cornerstones for cognitive-evolutionary understandings of sport fandom more broadly. Football is the most popular global sport (Armstrong and Giulianotti, 1997), and research of this kind has direct implications for the fields of psychology, anthropology, sociology, marketing, sport sciences, and leisure.

Eighth, this thesis lays some of the foundations for a related ERC-funded post-doctoral project with Professor Whitehouse commencing in 2017 (Ritual Modes: Divergent modes of ritual, social cohesion, prosociality, and conflict). This project will extend the thesis by designing intervention strategies to reduce football-based inter-group violence among hooligans in the UK, Brazil, and Australia. As a next step, we will be designing and evaluating interventions in which sport is used to bring communities together. These projects include: working with ethnic groups and genocide survivors taking part in football schemes in Rwanda; ex-convicts 'buddying' up in 5-a-side football clubs in Australia; and refugees joining local table tennis clubs in southern England. We are also investigating the neural underpinnings of group alignment (primed via synchronous behaviour) and outgroup hostility among football fans using fMRI technology with colleagues at the D'Or Institute for Research and Education (IDOR) (Brazil), who I have worked with on this thesis.

Finally, this thesis and its related post-doctoral project have facilitated on-going experimental collaborations between researchers at three Brazilian, three Australian, and one other British university with researchers at Oxford's Institute of Cognitive & Evolutionary Anthropology. To date, these include: the Universidade Federal do Rio Grande do Norte's Department of Physiology (Brazil), the Universidade Federal de Minas Gerais' Grupo de Estudos sobre Futebol e Torcidas (GEFUT) (Brazil), the D'Or Institute for Research and Education (IDOR) (Brazil), the University of Sydney's Psychology of Intergroup Relations Lab (SUPIR) (Australia), Western Sydney University's Institute for Culture & Society (Australia), Macquarie University's Department of Cognitive

Science (Australia), and the University of Brighton's Football 4 Peace group (UK).

## Chapter 2

### Conceptual Framework

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#### **2.1 What is cooperation and why is it so important?**

Broadly, cooperation describes groups of individuals (be they individual humans, microorganisms, or cells in the body) working together for mutual gain, as opposed to working competitively for selfish interests. Cooperation is clearly essential to life in even its most simple of forms. The propensity for social living and cooperation among humans has attracted the attention of great thinkers for millennia, from Plato to Rousseau, from Confucius to Darwin. In the last century, advances on the theory of natural selection, i.e. inclusive fitness theory, have helped to explain the genetic advantage of altruism within kin networks (Darwin, 1872; Hamilton, 1964; West et al., 2001; Dawkins, 2016 [1976]). More challenging to explain with evolutionary theory is the occurrence of socially complex groups, containing non-kin networks, and seemingly non-reciprocal altruism, such as a willingness to sacrifice one's life for a group of non-kin (Trivers, 1971; Connor, 1995; Gurven, 2004). How do we explain these peculiarly human, extreme pro-group behaviours?

Group cohesion in humans – our social 'stickiness' - is required for cooperative activities where there is a strong temptation to free-ride or defect. Examples include high risk activities like big game hunting and warfare, where selfish interests (e.g. to take advantage of group success without engaging in self-sacrificial behaviours) conflict with group goals (to work co-operatively for group successes) (Whitehouse and Hodder, 2010; Whitehouse and Lanman, 2014). Central to this notion of cohesion is that people can become attached to each other so as to think and act as a group, but there are substantial variations

in the extent and ways in which individuals stick together (Turner, 1969; Tajfel, 1974; Henrich, 2004; Melis and Semmann, 2010; Durkheim, 2012 [1925]).

Durkheim's well-known distinction between mechanical and organic solidarity describes two ends of the spectrum - from tight, undifferentiated units to societies entailing a relatively complex division of labour. His description utilises many empirical examples but lacks a convincing account of the proximate psychological causes of these two kinds of social cohesion. More recently, Whitehouse & Lanman have proposed that identity fusion and identification capture the underlying mechanisms described by Durkheim and others' dichotomies (Gómez et al., 2011; Whitehouse and Lanman, 2014).

As collective action problems differ across societies, it is unsurprising that social structures differ accordingly (Henrich, 2015). For instance, for large-scale agriculture, big groups that conform to standardised patterns of behaviour are likely to be more successful than small groups that behave idiosyncratically. These large groups need to cooperate but, for their type of resource acquisition (i.e. relatively safe and predictable), they do not need particularly high levels of social cohesion. Instead, their societies are best suited to doctrinal, daily practices that allow members to commit to other individuals they do not know, but with whom they share a group identity, in low levels.

In contrast, cultures depending on big-game hunting (i.e. dangerous and unpredictable) are likely to be most successful if they have highly loyal, tight-knit communities. These groups require an intense form of social cohesion that can be achieved through rare but personally transforming, shared, imagistic rituals that bind individuals to their fellow group members as if they were brothers. Specifically, there is an inverse correlation between the frequency of

rare, dysphoric rituals and levels of agricultural intensity (Atkinson and Whitehouse, 2011). Societies with occasional and particularly intense shared rituals are most likely to work in small units hunting big game, while societies with regular, low-intensity rituals are likely to have large-scale and more complex agricultural and social systems.

Whitehouse & Lanman (2014) explain that due to these differentiated systems some societies are best supported by shared emblems and the transmission of group norms (i.e. identification), while others are better supported by intense, kin-like cohesive groups (i.e. identity fusion). The former, small-scale societies, focused on big game hunting, are at risk of free-riders and defectors (Whitehouse, 1996; Moffett, 2013). These societies need mechanisms in place to promote kin-like cohesion among their members, with such intensity that group members are willing to trust other group members with their lives.

At the other end of the spectrum, large-scale societies may adopt taxation and complex divisions of labour to reduce some free-riding and defection. However, these societies require individuals – who do not know one another – to trust and cooperate, i.e. to commit to an ‘imagined community’ (Anderson, 1983) via the transmission of shared norms (Henrich, 2009). This account is supported by archaeological evidence showing that peoples transitioning from small-scale to larger, more complex societies seem to have undergone ritual transitions. Changes from lower frequency but high arousal rituals to higher frequency but low arousal rituals, seem to be accompanied by changes in social cohesion from tightly-bound kin like units to societies operating on shared beliefs and values (Whitehouse and Hodder, 2010).

Evidence also comes from modern rebel groups (Whitehouse & Lanman, 2014). These groups show that imagistic and doctrinal traditions can spread rapidly, especially when cultural group selection pressures are intense. Those groups that do not dis-band swiftly adopt ritual practices and a form of cohesion most suited to their environment (i.e. resource acquisition and protection), such that either one mode or the other is adopted: tight-knit relationships occur via the imagistic mode or larger rebel groups unite entire ethnic groups via doctrinal exposure to ideologies and group norms (Whitehouse and McQuinn, 2012).

Kin selection and psychological kinship, which piggybacks on the success of the former, are two possible mechanisms for cooperation. An additional mechanism concerns shared histories. There are times when the fates of individual and group are particularly closely aligned. These instances could include periods following intense or traumatic events, such as attacks on the group (e.g. warfare, predatory attacks etc.), group defeats (e.g. in warfare, raids or non-violent inter-group conflicts that cost the group's reputation), or natural disasters (e.g. tsunamis, earthquakes etc.). These 'dysphoric' events are likely to threaten the stability of the group and consequently the survival of individuals during a critical period when the precariousness of non-group living is heightened. This could occur when threat from an outgroup is high, resources are low, or the environment is unpredictable.

The patterns observed between ritual behaviour, social cohesion, and agricultural intensity encompassed in Whitehouse's modes theory provides the most ambitious conceptual framework for group living to date. Theories of coalitional or ethnic psychology (Boyd and Richerson, 2005; Henrich and

Henrich, 2007) and identification (Tajfel, 1974; Tajfel and Turner, 1979a; Turner et al., 1987) have come some way in explaining the dynamics that hold groups together. Nonetheless, the mechanisms underlying extreme social bonding have only recently started to be explained cognitively by the theory of identity fusion (Swann et al., 2012; Whitehouse and Lanman, 2014; Swann and Buhrmester, 2015).

In line with previous research, I propose that shared dysphoria fosters identity fusion: a fusing between the individual's personal and social selves via a process of 'self-transformativeness', which engenders a profound pro-group mentality (Swann et al., 2012; Swann et al., 2014b; Whitehouse and Lanman, 2014; Whitehouse et al., 2014; Buhrmester and Swann, 2015; Newson et al., 2016). In this thesis, I investigate the cognitive causes and behavioural outcomes of identity fusion in a modern and global human population that revolves around uncertainty and the potential for defeat: football fan culture.

## **2.2 Theoretical approach**

In this literature review, I first outline the theory of identification and its limitations for explaining extreme pro-group behaviours. By contrast, identity fusion is a more intense form of group alignment capable of motivating extreme pro-group behaviours because it recruits personal agency in a way that identification cannot. These extreme pro-group behaviours include a willingness to make personal sacrifices for the group; even the ultimate sacrifice of one's own life. What's more, these acts of self-sacrifice in the name of the group have been observed in both hypothetical scenarios in the laboratory (Gómez et al., 2011) and in the real world (Whitehouse et al., 2014, Sheikh et al., 2016). After an overview of fusion theory, I shall evaluate current theories as to the causes of

fusion. Of particular interest to this thesis is the dysphoric pathway to fusion (Whitehouse, 2004; Whitehouse and Laidlaw, 2004), which unpacks the cognition behind the power of dysphoric rituals to bind group members via reflection and a sense of becoming 'self-transformed' by highly impactful group events.

As well as causes of fusion, this thesis examines the consequences of fusion, broadly categorised here as extreme pro-group behaviours and outgroup hostility. The relationship between ingroup love and outgroup hate is discussed as well as the role sacred values may play in the behavioural outcomes associated with fusion. Before concluding the thesis' theoretical approaches, I introduce the sample used throughout this project: football fans. Though Chapter 3 is devoted to literature concerning football fandom more explicitly, the section on football fandom in the present chapter is intended to make explicit the parallels in fusion theory and the lived experience of football fans, specifically concerning the significance of group rituals, a sense of shared experience, and *communitas*. First, I contrast the theories of identification and identity fusion.

### **2.2.1 Identification and Social Identity Theory**

#### *Overview*

Across the social sciences, the concept of social cohesion has been hard to pin down conceptually, to the extent that this phenomenon has no name other than the rather antiquated '*communitas*' (Ehrenreich, 2007). Both Turner's *communitas* (1969) and Durkheim's *collective effervescence* (2012 [1925]) refer to the 'magical moments' of ritual that strengthen individuals and bind

communities (Olaveson, 2001). Though these two theories have well-documented flaws (Bloch, 1986; Boyer and Liénard, 2006), the topic of social solidarity itself maintains its relevance due to the importance that seeking meaningful relationships and experiences play in human life.

Nevertheless, there is a lack of cognitive level explanations for ritual's well-observed power to create significant changes in affect, emotion, and group alignment. Whitehouse & Lanman's proposal to fractionate cohesion (as well as ritual) by contrasting identification and identity fusion tackles this issue.

Social identity refers to a person's sense of who they are in terms of group membership (Tajfel and Turner, 1979a). The literature on group identification is extensive and relates to an array of behavioural outcomes (Ashforth and Mael, 1989; Branscombe and Wann, 1991; Zdaniuk and Levine, 2001; Hogg, 2006). With its roots in 1970s group psychology, Tajfel and Turner (1979b) pioneered the approach formulating a new way to view an individual's relationship to their group, in which the individual become depersonalised when the group category is active (Stets and Burke, 2000). Still central to SIT (Social Identity Theory) is functional antagonism, the notion that when an individual's group membership is active their personal identity is not (Gómez et al., 2011). Equally, when their personal identity is made salient, their group membership is deactivated.

Theoretically, if an individual is highly identified they will primarily see themselves as a group member, as opposed to a unique individual, while low identifiers would see themselves as the latter. This is a form of bonding characteristic of large-scale societies, which allows individuals to co-operate with anonymous strangers, i.e. it is representative of a coalitional psychology

(Boyd and Richerson, 2005). When a person's group membership is active and their sense of self revolves around their group, we would intuitively expect them to hold a pro-group mentality and act, to some extent, on behalf of the group. Indeed, the empirical literature suggests that identification is a predictor of cooperation (Brewer and Schneider, 1990; De Cremer and Van Vugt, 1999) as well as being implicated in inter-group aggression (Tajfel, 1974; Wann et al., 2001; Wann et al., 2003; Wann et al., 2005; Cikara et al., 2011).

### *Development and critiques of SIT*

SIT theorists continue to demonstrate why understanding group alignment is still a highly relevant field of research. For instance, the neural basis for ingroup and outgroup psychology has been identified (Hein et al., 2010; Cikara et al., 2011) and could provide evidence of evolution in human cognition, when used in comparative studies with other primates. However, SIT does not account for the variability in forms and degrees of group membership. In particular, it does not explain extreme group bonding in which individuals are willing to make the ultimate sacrifice for their groups; give their own lives (Swann et al., 2010b; Sheikh et al., 2014; Swann et al., 2014a; Swann et al., 2014b).

For instance, in early work on fusion, Swann et al. (2010b) found that fusion, but not identification, interacted with heightened agency (elevated via physiological arousal) to increase the endorsement of pro-group actions. This suggests that the two measures relate to distinct constructs (Bortolini et al., Under Review). While fused individuals report feelings of shared essence with the group, high identifiers acknowledge shared fate with the group but not to the extent that they are 'one' with the group (Swann et al., 2010b). As both the personal and social selves can energise pro-group behaviours, fused individuals

are in a position to engage with more extreme pro-group behaviours (Swann et al., 2009). In line with a growing body of research, we propose that identity fusion can help to explain extreme social bonding and self-sacrifice.

### **2.2.2 Identity fusion**

#### *Overview*

Identity fusion is a relatively new concept in social psychology developed by Swann and colleagues (Swann Jr et al., 2009; Swann Jr et al., 2010; Swann et al., 2010a; Gómez et al., 2011; Swann et al., 2012). With its roots in social identity theory (Tajfel and Turner, 1979a), identity fusion is a specific form of group alignment concerning a ‘oneness with the group’, whereby the boundary between the social and personal selves is made permeable (Swann et al., 2012, 441). Despite this, the individual is able to maintain a clear sense of who they are and what the group is. Permeability in highly fused individuals results in the investment of personal agency into pro-group behaviour and permits fused group members to regard others as both group members and unique individuals, thus simultaneously creating *collective links to the group* and *relational ties within the group*.

Highly fused individuals say that ‘they will do anything for the group and its members’ and, as this feeling is projected onto other group members, that the group will do anything for them (Swann et al., 2012, 443). This extraordinary relationship between personal agency and collective ties creates the potential for particularly cohesive groups, which contain individuals willing to co-operate at extreme levels. Once a person is strongly fused to a group, they tend to stay

that way (Fredman et al., 2015), resulting in groups that are not only cohesive, but also resilient (Atran, 2016)<sup>3</sup>.

In this thesis, individuals who are described as 'highly fused' are fused relative to the population in which they were studied. Earlier literature made a binary distinction between being fused (scoring the highest point on the pictorial scale) and not fused (scoring anything else on the scale) (Swann et al., 2009). More recent literature tends to acknowledge that populations differ in levels of fusion and categorises high fusers relative to that population as being 1SD above the mean, while those that are weakly fused fall 1SD below the mean (Gómez et al., 2011). We use this more recent approach in the thesis to be consistent with the broader literature and take advantage of variation in the data.

Identity fusion can be sub-divided in to *local* and *extended* fusion (Swann et al., 2012, 442). Local fusion concerns *relational ties* within intensely close knit groups made up of personal, face-to-face relationships and is thought to have evolutionary roots in psychological kinship (Whitehouse et al., 2013). The premise is that if you believe others share your most painful experiences, the boundary between 'self' and 'group' becomes porous and the two identities fuse together. Fusion can also extend to nations, ethnic groups, or even belief systems, via *categorical ties*. The origins of extended fusion are currently less researched but, as it is less likely to involve personal experience and subsequently not be directly implicated in the construction of the personal self, perhaps carries less conviction than local fusion (Whitehouse et al., 2013).

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<sup>3</sup> Although fusion is considered to be temporally stable, it may appear in a form that 'waxes and wanes' BUHRMESTER, M. D. & SWANN, W. B. 2015. Identity Fusion. *Emerging Trends in the Social and Behavioral Sciences: An Interdisciplinary, Searchable, and Linkable Resource*.

### *Contrasting fusion and identification*

Theoretically, fusion refers to a 'porous' boundary between personal and group identities, while identification concerns a hydraulic relationship between personal and group identities, such that either the personal or social self is activated. Swann et al. 2012 (443 – 444) highlighted the four principles of fusion that make it distinct from other forms of alignment:

- 1) Agentic-personal-self principle (unlike the depersonalisation associated with identification, fused persons do not abdicate their personal agency);
- 2) Identity synergy principle (rather than group behaviour being driven by social selves, fused people may synergistically combine both personal and social selves. Pro-group behaviour can thus be amplified for fused persons by activating either either personal or social selves);
- 3) Relational ties principle (highly fused people recognise others as unique individuals, as well as anonymous group members, making for particularly strong relational ties);
- 4) Irrevocability principle (compared to context-based identification, fused people tend to remain fused, in part due to the strength of relational ties and exclusivity associated with fusion).

The theoretical grounds for the differences between fusion and identification have not yet been empirically tested. Ultimately, with all research there is a tension between reality (some people are extraordinarily committed to their groups), theory (that some people have overlapping personal and social identities) and measurement (selecting the most 'fused' items on a scale).

Although fusion and identification are strongly correlated, so too are height and weight, and no-one would argue that they measure the same thing. There are

three key points from experimental work that make clear that fusion and identification describe real and measurably different attitudes and behaviours.

First, fusion does not entail the depersonalisation associated with identification (Swann et al., 2009). Second, in a study with Brazilian nationals, fusion and both uni- and multi-dimensional identification items were found to load differently in three contexts – nationality, religion, and football fandom (Bortolini et al., Under Review). Third, fusion predicts extreme pro-group and violent behaviours better than identification (Swann et al., 2010a; Swann et al., 2010b; Swann et al., 2014a; Whitehouse et al., 2014). Considering recent evidence indicating how fundamentally distinct fusion and identification are, a comparison of the two constructs is not a fundamental aim of this thesis. Rather, the focus is on the causes and consequences of fusion, though measures of identification are included in the studies as a control as detailed in relevant appendices.

In less than a decade fusion theory has produced some remarkable results relating to extreme pro-group mentalities and behaviours. There is also substantial evidence indicating that the fusion and identification constructs are distinct. Now, research grounded in anthropology has begun to address the question of what causes some individuals to become highly fused with their groups. The following two sections discuss the modes of religiosity and the shared dysphoria pathway to fusion.

### **2.2.3 Group alignment and modes of religiosity**

Whitehouse's Modes of Religiosity theory (2004) proposes two distinct religious modes which exploit differing ritual frequencies to promote the memorability of rituals. First there is the *imagistic mode*, in which the performance of rare but

highly traumatic rites is inflicted on participants, triggering episodic memory. While labels such as 'brother' or 'family' are important social markers, research suggests that flashbulb memories may be powerful enough to re-write the autobiographical self, altering the degree to which the boundary between personal and social selves is porous (Conway and Pleydell-Pearce, 2000; Whitehouse, 2005; Conway, 2013). When shared in a group, these events create a porous boundary between individual and social selves, creating a sense of 'kinship' with other group members (this process is described in more detail in the next section (Swann et al., 2014a; Whitehouse and Lanman, 2014; Whitehouse et al., 2014; Buhrmester et al., 2015). In this way, ritual may be a tool that cultures can use to facilitate or promote shared identity and the ingroup benefits associated with it.

Second, the *doctrinal mode*, which is a historically later development, describes frequent orthodox rituals, which aid memory through repetition. Through a process of frequent exposure to the group's norms and conventions (group doctrines), individuals are able to recognise other group members and, when group identity is salient, are better able to cooperate with them (Levine et al., 2005; Whitehouse, 2005; Boyd and Richerson, 2009; Chen and Li, 2009). The modes theory proposes that the two ends of the spectrum are logically unlikely to mix as a ritual must either be rare to maintain high-arousal or be regularly repeated when low-arousal, if it is to be remembered (Whitehouse and Laidlaw, 2004).

In contrast to identification, identity fusion is thought to have evolved in a small-scale context, though it can also work in big groups through the projection of relational ties (Swann et al., 2012). For fused individuals, intense

dysphoric experiences shared with peers form local fusion (Swann et al., 2012), while the projection of these relational ties on to a larger group creates extended fusion, through which other group members are recognised by shared emblems. This construction of shared identity is a stepping-stone to the imagined communities described by Anderson (1983). In cases of both local and extended fusion, other individuals are recognised as simultaneously being social and unique entities with whom personal self-concepts are shared. As such, psychological kinship is diagnostic of fusion rather than identification. Fused individuals are not just co-operators; they are treated as kin (Whitehouse and Lanman, 2014; Buhrmester et al., 2015). Indeed, genetic relatedness has been linked to increases in fusion in a twin study (Vázquez et al., 2017a). Both forms of fusion are thought to result from shared self-defining rituals (Whitehouse et al., 2013), which makes them distinct from doctrinal traditions that exploit routinized rituals and high levels of identification. However, large groups rooted in doctrinal traditions may also include imagistic cells made up of individuals who have shared particularly harrowing experiences together and who know each other personally, beyond the shared emblems of the wider group (Whitehouse, 1995).

#### **2.2.4 The shared dysphoria pathway to fusion**

This thesis investigates the shared dysphoria pathway to fusion, which involves intense arousal (Chapters 4-7) and ensuing 'self-transformativeness' (Chapter 5-7). This section explores these concepts in relation to the wider literature and draws out key research questions. At the end of the section, the roles that priming and synchrony may play in identity fusion, and the relationships between these causes, are also discussed.

### *Dysphoric arousal*

Affective arousal can be categorised as either euphoric or dysphoric.

Anthropological and experimental research shows that dysphoric experiences endure in episodic memory (creating intense or traumatic imagery) to form a stable, essential part of one's individual self-concept (Whitehouse, 1996; Richert et al., 2005; Conway, 2013). Such negatively charged experiences are processed more thoroughly than positively-valenced events (Baumeister et al., 2001).

People are compelled to reconcile such events with their socially negotiated narrative about the normative response to such an event, leading to an adjustment in the auto-biographical self. Believing that one shares harrowing, self-transformative memories with fellow group members via a false-consensus bias is thought to fuse the personal and social self, fostering long-term group commitment (Mullen et al., 1985; Swann et al., 2012) (see Chapter 5 for more details on this process). Dysphoric arousing rituals are thus more likely to induce episodic recall (Xygalatas, 2008) and are also a stronger predictor of ritual frequency (Atkinson and Whitehouse, 2011).

The hypothesis that cooperation following from shared dysphoria allowed extreme pro-group behaviours to evolve has recently received both mathematical and empirical support in a range of contexts (Whitehouse et al., 2017). These cross-cultural studies included military veterans, football fans (based on data presented in Chapter 4), fraternity members, and martial arts practitioners. Even though genetic relatedness has been found to increase fusion between individuals (Vázquez et al., 2017a), the empirical studies in Whitehouse et al. suggest that shared dysphoria can be a more powerful predictor of extreme pro-sociality than kinship (i.e. in twin studies). Other work has found that

negative historic events can lower collective fusion (i.e. to the Spanish nation), but not relational ties (i.e. to Spanish citizens) and that these events do not diminish strongly fused individuals' propensity to fight and die for the group (Vázquez et al., 2017b).

Nonetheless, the significance of the dysphoric arousal pathway to fusion does not necessarily diminish the important role of euphoric arousal in social bonding (Evans and Dion, 1991; Mullen and Copper, 1994). Indeed, euphoric arousal's role in short-term or state fusion may have been neglected in recent years in contrast to dysphoria's role in long-term or stable fusion. Though both affective states may be important, it is perhaps more surprising that dysphoria could result in such a powerful social glue (Whitehouse et al., 2013; Whitehouse and Lanman, 2014). Although euphoric arousal is touched upon in Chapter 5, this thesis focuses on dysphoric arousal and provides some of the first empirical evidence to quantify the precise role dysphoria plays in the causal path to fusion. Can trait fusion be altered by an intense enough group experience? What are the long-term effects of experiencing group hardship?

### *Self-transformativeness*

Self-transformativeness describes the transformation an individual experiences following intense life events, i.e. the individual's relationship to the self and/or group becomes re-shaped or altered by the event (Singer and Blagov, 2004). Conceptually, this is the extent to which a person recognises a life event as having such meaning or impact that the event is a source of their autobiographical, personal identity. Transformativeness is thus broader than previous literature around 'self defining memories' (Conway and Pleydell-Pearce, 2000; Singer and Blagov, 2004; Whitehouse and Lanman, 2014). If

dysphoric events have been shown to form a part of an individual's self concept (Whitehouse, 1996; Richert et al., 2005; Conway, 2013), how does sharing these events with others influence our social identities?

Intense, shared affect and a sense of being transformed by such an event have been brought together in a framework to explain fusion, established by Whitehouse and Lanman (2014). The framework proposes that particularly intense life events hold the power to shape or transform the personal autobiographical self (Whitehouse, 2005). When such life events are shared with ingroup members, through a process of reflection over time, people may in turn perceive the events to transform one's identity, both personally and socially (see Chapter 5 for a more detailed explanation). As a result, the border between personal and social self becomes more porous; one's identities become fused (Gómez et al., 2011; Whitehouse and Lanman, 2014). Several recent studies have found broad support for this account, however, none have specifically examined linkages between fusion and perceptions of how group events have been self-transformative (Xygalatas et al., 2013; Buhrmester et al., 2015; Jong et al., 2015). This thesis assesses this gap by examining the extent to which sharing transformative experiences with others lead to fusion with the ingroup (Chapters 5, 6, and 7 explore the self-transformativeness construct).

As described in the previous section, another key prediction derived from Whitehouse and Lanman (Atkinson and Whitehouse, 2011; Whitehouse and Lanman, 2014) is that highly dysphoric group experiences can affect fusion in ways equal to and even beyond euphoric group experiences. While the power of euphoric events to transform individuals (Cohen and Hoberman, 1983; Bohanek et al., 2005) and increase group cohesion (Bohanek et al., 2005) is well

documented, little research has assessed the effects of dysphoric experiences on perceptions of self-transformativeness and group bonding, and findings have been mixed (Turner et al., 1984; Evans and Dion, 1991; Mullen and Copper, 1994; Fullagar and Egleston, 2008) (5.1.1 expands on this). Self-transformativeness following euphoric events may also lead to fusion, but is less likely to be 'imagistic' in line with Whitehouse's modes theory (Whitehouse, 2004; Atkinson and Whitehouse, 2011; Whitehouse and Lanman, 2014).

We focus on self-transformativeness' role in the causal path to fusion following dysphoric events. Do transformative events lead to fusion and how long does this process take? How do fusion and transformativeness interact to produce ingroup cohesion, i.e. does transformativeness moderate the relationship between fusion and group cohesion?

#### *State fusion and priming shared dysphoria*

There are a number of additional potential causes of fusion, which are still to be investigated. These theories are not the focus of this thesis but are included here because they connect to the dysphoria-transformativeness pathway. These alternative causes include, but are not limited to, the effects of priming, synchrony and phenotypic matching.

Although fusion is considered to be a trait measure, similar to other identity constructs, it may 'wax and wane' around a central value (Buhrmester and Swann, 2015). Buhrmester and Swann propose that special, infrequent group events (e.g. religious or significant sporting events) or unexpected and impactful events (e.g. natural disasters or terrorist attacks) may temporarily influence fusion. This would mean that different pathways trigger trait and state

fusion: while dysphoric arousal and a process of becoming transformed by the event trigger trait fusion, state fusion can effectively be primed by an event.

Precisely how such primes would work has not yet been thoroughly researched. One might hypothesise that state fusion could be increased by euphoric group events that remind the individual of the group's strength. On the other hand, perhaps state fusion would be decreased by dysphoric group events for low-fused individuals (in an attempt to cut off reflected failure (CORF) (Wann and Branscombe, 1990), but increased for high fused individuals if the event primed the dysphoria they experienced in developing their trait fusion. Although further work devoted specifically to exploring the relationships between trait and state fusion is still needed, this thesis includes measures of state fusion in relation to witnessing one's team exit the World Cup (Chapters 6 and 7).

### *Synchrony and phenotypic matching*

In contrast to the dysphoric pathway to fusion, more ephemeral forms of shared experience that trigger phenotypic matching, such as collective cheering, chanting, singing, waving and stamping in crowds may also be significant in inducing fusion (Whitehouse and Lanman, 2014). For instance, emblematic displays of group commitment including shirts, face painting and even tattoos could have an impact on fusion levels. These factors may be important in doctrinal forms of coalitional or ethnic psychology (Henrich and Henrich, 2007) but unlike the group identification associated with this mode, fusion is thought to be a feature of our kin psychology, which evolved to motivate altruism towards genetically related individuals, based on phenotypic matching (Whitehouse and Lanman, 2014).

As phenotypes are limited in revealing genotypes, genetic relatedness must be inferred through alternative methods, e.g. by duration of co-residence (Lieberman et al., 2007) or through restricted HLA (human leucocyte antigen) detection (Ober et al., 1997). Identity fusion and the extreme pro-group behaviours associated with it do not appear to conform to Hamilton's rule<sup>4</sup> because fictive kin elicit the same or similar reactions as actual kin. However, these behaviours may be explained in terms of inclusive fitness as having initially been a biological adaptation, which culturally served to unify increasingly larger groups (Swann et al., 2012). Ritual may thus serve as an important trigger for feeling genetically related to other group members and inducing identity fusion in larger communities as a by-product of evolved cognitive architecture to recognise those with shared experiences as kin.

An alternative pathway to fusion may be synchrony. Even when isolated from positive associations, synchrony has been found to enhance social bonds (Wiltermuth and Heath, 2009). Of the primates, only humans appear to exhibit intentionally coordinated, interpersonal, time-locked rhythmic synchrony (Atran, 2002; Hove and Risen, 2009). This trait, along with musicality, has been proposed as an adaptation for signalling a strong coalition, in turn permitting mutual trust and cooperation within a group (Hagen and Bryant, 2003). It has also been found to have direct effects on endorphin production and is implicated in euphoric social activities (Cohen et al., 2010a). Synchrony seems to be so strong a motivator of prosociality that even outgroup members benefit from an individual engaging in synchronous behaviours: in a recent laboratory study individuals performing in synchrony not only exhibited increased helping

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<sup>4</sup> Hamilton's Rule was revolutionary in explaining indirect fitness benefits by using the formula  $rb > c$ , where  $r$ =relatedness,  $b$ =benefit, and  $c$ =cost HAMILTON, W. D. 1964. The genetical evolution of social behaviour. II. *Journal of theoretical biology*, 7, 17-52.

toward extended ingroup members (extended parochial prosociality) but also toward outgroup members (generalised prosociality) (Reddish et al., 2016). Though generalised prosociality is not often associated with football crowds, synchronous group activity, such as jumping in unison in the stands of a football stadium, may temporarily elevate state fusion levels, potentially acting as a buffer for the uncertainty of their group's wider fate, i.e. the team's performance on the pitch.

In sum, future studies on synchrony and identity fusion could illuminate our understandings of social cohesion for two main reasons. First, synchrony may motivate phenotypic matching, the perception of shared traits, and the exploitation of psychological kinship. Second, synchronous action may generate euphoria leading to elevated state fusion levels. The next section considers the two interrelated consequences of identity fusion that are investigated in this thesis: extreme pro-group behaviours and outgroup hostility. The relationship between fusion and sacred values is also discussed.

### **2.2.5 Consequences of identity fusion**

#### *Extreme pro-group behaviours*

While fusion is associated with personal agency and the activation of both personal and social selves, identification relates only to the social self and resultantly utilitarian thought (Swann et al., 2012; Fredman et al., 2015). As a result, fusion and identification relate to different forms of pro-group behaviour. Rather than reflecting cost-benefit considerations, fusion-driven pro-group sentiments and actions that are typically regarded as extreme, such as dying for your country or football club, are deontological in nature and consequently, far

more extreme than the behaviours motivated by identification (Swann et al., 2010a; Bortolini et al., Under Review). These extreme behaviours are nuanced and, while the extreme prosociality associated with fusion has the potential for disastrous consequences for rivals (Whitehouse et al., 2014), fused individuals are not particularly hostile toward outgroups unless they perceive a threat (see the next section for more detail).

Self-sacrificial, pro-group behaviours occur cross-culturally and throughout history (Mitchell, 2012). While evolutionary explanations for these non-kin sacrifices have progressed considerably (Hamilton, 1964; West et al., 2007) much remains to be learned about the proximate mechanisms involved. Identity fusion theory (Swann et al., 2011) offers a proximate psychological explanation for costly altruistic behaviour towards genetically distant individuals.

The emergent fusion literature has already demonstrated that fused individuals express willingness to make personal sacrifices for the group in a variety of contexts (Gómez et al., 2011), such as: Spanish citizens expressing willingness to lay down their lives to save other imperilled group members, but not American citizens, in a trolley dilemma scenario (Swann et al., 2010a); high fusion rates among Libyan revolutionaries actively engaged in conflict (Whitehouse et al., 2014); higher rates of irreversible surgical changes among transgender individuals who report being highly fused with their cross-gender group (Swann et al., 2015); fused American citizens being more likely to give blood or money following the Boston bombings (Buhrmester et al., 2015); both highly fused Brazilian football fans and religious followers expressing greater willingness to fight and die for their groups (Bortolini et al., Under Review); and

fused Brazilian hooligans reporting more violence than weakly fused Brazilian hooligans (Newson et al., Submitted). This association between fusion and the endorsement of extreme pro-group behaviours has been established in 6 continents (over ten countries) (Swann et al., 2014a). We test pro-group behaviours in Chapters 4, 6, 7, and 8.

### *Outgroup hostility*

Compared with pro-group sentiments and behaviours, less research has been conducted on the relationship between fusion and outgroup hostility. However, field studies in conflict zones indicate that the forms of extreme pro-group behaviours associated with fusion often translate into action that is implicitly hostile toward outgroups (Sheikh et al., 2014; Whitehouse et al., 2014; Sheikh et al., 2016). The 'fight and die' scale, which assesses an individual's willingness to fight and die for their group, is also strongly associated with fusion (Swann et al., 2010b; Bortolini et al., Under Review).

Decades of research into 'ingroup love' and 'outgroup hate', revolving around theories of identification, suggest that while ingroup biases can be related to negative relationships with outgroups, they do not necessarily translate into outgroup hostility (Allport, 1979; Tajfel and Turner, 1979a; Brewer, 1999). On the contrary, the conflation of ingroup preferences and outgroup derogation has proven to be problematic and the option to cooperate with outgroups is likely to have been important in human evolution (Brewer, 1999; Cameron et al., 2001).

In more recent years, attempts have been made to distinguish ingroup preferences and outgroup hostility. For instance, research using economic games has showed that when given the option of two pools to make monetary

contributions to, participants almost exclusively choose the within group, cooperative pools that come at a personal cost, rather than another pool that, in addition to helping the ingroup, harms the outgroup (Halevy et al., 2008). Furthermore, intragroup communication prior to the game increased cooperation but did not increase hostility. Nonetheless, intragroup conflict is highly prevalent in reality and marks social dynamics from children's allegiance's on the playground (Bigler et al., 1997; Cameron et al., 2001) to warfare and genocide (Hardin, 1997). There is also growing evidence to suggest that outgroup hostility and ingroup altruism coevolved, i.e. parochial altruism (Bernhard et al., 2006; Choi and Bowles, 2007) At what point does one's preference for the ingroup translate to outgroup hostility?

Brewer explains outgroup hostility in relation to the trade off between inclusion and differentiation that is posited to occur within group boundaries according to SIT (Brewer, 1999). Individuals have a desire to be included in a group, but once they are identified with a group they become depersonalised, a key premise of identification theory (Tajfel, 1974; Tajfel and Turner, 1979a). They then seek to become differentiated, which can be satisfied via inter-group distinctions. With outgroups established, hostility is then posited to rise under conditions of: moral superiority (*'My group's rules are better than your group's':* group norms are perceived as morally authoritative); pursuing common goals (*'I don't trust your group to work with my group':* the need for cooperation highlights the absence of mutual trust); social comparison and shared values (*'I want my group to be better than yours':* the search for positive distinctiveness becomes competitive); and perceived threat (*'your group could harm my group':* a threat to the group's interests or survival) (Brewer, 1999). Only the final,

'threat', condition creates a reciprocal relationship between ingroup cohesion and outgroup hostility. This appears to be most relevant to identity fusion and is investigated in Chapter 8.

Threat can be either realistic or symbolic (Hewstone et al., 2002). However, the bulk of psychological literature tends to treat threat in terms of a threat to group distinctiveness, i.e. an outgroup that shares traits with the ingroup (Jetten et al., 1998; Hewstone et al., 2002). Although fusion theory may predict dynamics similar to theories of identification, research suggests that the sentiments and actions of highly fused individuals are more extreme than those of individuals who were merely identified with the group (Whitehouse et al., 2013). This predicted extremity is rooted in the individual's personal self merging with their social self, resulting in the perception of group threats being in some way personal. As group members feel like kin, fused individuals are likely to enact the kinds of behaviours that would usually be predicted by inclusive fitness theory.

Fusion theory presents an opportunity to measure threat beyond social distinctiveness, which is less likely to be an issue for highly fused individuals due to the merging of personal and social selves. We test outgroup hostility in Chapter 6, and test levels of reported violence to outgroups among Brazilian football hooligans in Chapter 8.

### *Exploring fusion and sacred values*

Sacred values are commitments to certain causes (e.g. love, justice, or devotion to God) that are absolute, inviolable, and cannot be traded for with secular values (e.g. money) (Tetlock, 2003). Sacred values also seem to lead to extreme pro-group action and outgroup hostility (Atran and Axelrod, 2008; Atran and

Ginges, 2012; Sheikh et al., 2013; Atran, 2016). Once fused, group values seem to become 'sacred values', which may contribute to enacting extreme pro-group behaviours (Atran and Ginges, 2012; Sheikh et al., 2013). Importantly for football research, sacred values need not be religious. For instance, while fused Moroccans expressed willingness to make costly sacrifices for the implementation of Sharia law and militant jihad (when they held the value sacred), fused Spaniards were also more willing to make sacrifices for democracy, after being primed for jihadi terrorism (Sheikh et al., 2016).

According to Atran, when individuals are fused to sacred values and internalise them, the power of a society's moral policing is lessened and group members have a shared sense of significance (Atran, 2016). Atran's *Devoted Actor* model brings together the concepts of sacred values and identity fusion but two are still conflated in this body of research and there is a need for more thorough statistical analyses unpicking the two. However, it is clear that people who are both fused and hold sacred values have the potential to be especially extreme. These values have the potential to unite individuals across geographical borders to form collectives, such as the 'Global Jihadi Archipelago' described by Atran, and further strengthen the perception of 'familial ties' within the group. Once fused to a family-like group, individuals express a willingness to go to extraordinary lengths to protect their 'kin' (Swann et al., 2014a; Whitehouse et al., 2014; Sheikh et al., 2016). However, Atran and colleagues have not discussed where sacred values come from. This thesis proposes that fusion leads to sacred values and may also be implicated in the relationship between sacred values and self-sacrificial behaviours (see Chapter 4).

## *Conclusions*

The strength of the tie that identity fusion creates between individual and group is powerful enough to generate extreme pro-group behaviours, even the gravest of self-sacrificial behaviours; sacrificing one's life. In relation to, but distinct from, pro-group behaviour stemming from ingroup love is outgroup hostility. Most consistently triggered under conditions of perceived threat, outgroup hostility is expected to apply to specific outgroups, rather than all individuals who are not a member of the ingroup. The behavioural consequences of fusion – be it extreme pro-group behaviours or hostility toward outgroups – have the potential to be some of the most extreme social behaviours (Whitehouse et al., 2013; Buhrmester and Swann, 2015). When viewed in this way, a more thorough understanding of the causes and consequences of identity fusion could conceivably impact a great many areas, perhaps most importantly conflict resolution and policies relating to inter-group conflict. Precisely what is it about fusion that motivates extreme pro-group behaviours? What behaviours can we predict of highly fused individuals following dysphoric group events? What makes some highly fused groups engage in violent inter-group conflicts and not others? These questions are tackled in Chapters 4-8. The next section presents the sample that have been used to address the thesis' research questions.

### **2.2.6 The football fan landscape**

This thesis examines the theory of identity fusion among a special population: football fans. Football fandom is a well-established social phenomenon and many of its associated behaviours may be considered extreme, or indicative of high levels of identity fusion. For example, fans travel long distances, invest large amounts of money and time monitoring and participating in their teams' events

and often display visual symbols of allegiance to their team, even lifelong and painful tattoos are not uncommon. Furthermore, the extent of inter-group conflict between rival fan groups is so commonplace that British football culture was affectionately titled 'the social disease'.

Fans are so heavily invested in football that match results have even been associated with circulatory disease death rates in men at both local (club) level (Kirkup and Merrick, 2003) and at national level (Witte et al., 2000)<sup>5</sup>. However, the precise reasons for such emotional, financial, and physical group commitment remains unclear. This is a particularly interesting question when regional football support is compared to other regional leisure or entertainment groups, such as the ballet or orchestras (Winegard and Deaner, 2010).

Football fans are exciting not just as a globally expansive sample, but for the traits they share with other highly committed groups of individuals: their deeply emotional bond with the group; pro-group mentality; and personally costly pro-group behaviours, e.g. time and monetary investments or fighting for the group. The fact that football fans share and acknowledge group membership with thousands of other fans can be used to test different forms of group alignment, providing results that are likely to be applicable to other social groupings. These findings are especially relevant to male-dominated or male-led groups involved in ritualised collective action. These groups often play prominent roles in the social web, such as armies, military insurgent groups, or political parties (e.g. the House of Commons), making football fans a particularly attractive sample. Though a number of sports are associated with crowd rituals,

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<sup>5</sup> Increased myocardial infarction has also been documented in both English men and women in response to seeing their national team lose in a penalty shoot-out CARROLL, D., EBRAHIM, S., TILLING, K., MACLEOD, J. & SMITH, G. D. 2002. Admissions for myocardial infarction and World Cup football: database survey. *BMJ: British Medical Journal*, 325, 1439..

none can boast the global popularity of football, hence its selection for investigation. Football fandom represents a diverse, globally-prevalent culture that is implicated in extreme behaviours, e.g. football hooliganism, that entail destruction, and ultimately even death (Testa and Armstrong, 2010; Raspaud and da Cunha Bastos, 2013).

In addition, although fieldwork may take researchers to football stadia, football fans are generally far safer to conduct research with than insurgent or jihadi groups. The near global territory that football culture occupies also provides the potential for conducting research that is less WEIRD (such that participants need not be Western, Educated, Industrialised, Rich, or Democratic as outlined in 2.3.2) (Henrich et al., 2010b). Finally, pertinent to research on the shared dysphoria pathway to fusion, football fans experience unpredictable but easily observable shared 'highs' and 'lows' in correspondence with their team's outcomes.

The term 'fan' derives from 'fanatical', a state commonly exhibited on match days and beyond when fans display fervent adoration for their club (Martyn and Taylor, 1997). This adoration is not without emotional cost;

'Fans attend to experiences of desperation, envy, despair, misery, euphoria, all wrapped up in two hours of love and hate mixed with sincerity, passion and humanity' (Armstrong and Giulianotti, 1997, 8-9).

As the extremities of football spectatorship suggest, some football fans appear to be devotional actors, rather than rational actors - even supporters of highly successful teams have little reward for the sacrifices involved, unless supporters have shares invested in the team (Atran and Axelrod, 2008). The emotional arousal generated at matches has even been compared to the fever of religious rituals by a number of authors (Morris, 1981; Archetti, 1995; Armstrong and

Giulianotti, 1997; Martyn and Taylor, 1997; King, 2003; Mangan, 2007). Such intense, shared events may significantly trigger the dysphoric pathway to fusion (Whitehouse and Laidlaw, 2004; Richert et al., 2005; Whitehouse and Lanman, 2014).

In relation to the theoretical context established in 2.2.1-4, this project looks at football specifically in terms of crowd rituals. Football may lack an exegetic dimension and is not a self-conscious ritual (Martyn and Taylor, 1997) but these points do not diminish the power of the ritual arena to forge social interaction and solidarity (King, 2003). Indeed, football matches constitute secular rituals by transcending the normal to create a liminal space (Turner, 1969) within which males hug, kiss (Harvey and Piotrowska, 2013), and can enact a range of moods and emotions that are otherwise seen as emotional or irrational (Martyn & Taylor, 1997). The *communitas* generated by football crowd rituals allows non-contractual relations that can form across time and space that are not constrained by locality (Anderson, 1983). These 'neo-tribes' (Maffesoli, 1996) provide fans with shared, community derived experiences, which are potentially sought through a search for *communitas* (Martyn and Taylor, 1997). Being enclosed together – be it a football ground, pub, or outdoor viewing space - in the knowledge of their team's and co-fans' shared history, participants are simultaneously bound in an appreciation for their side and against whatever confronts them (Martyn and Taylor, 1997).

## **Conclusions**

The concepts of identification and identity fusion may be particularly useful for understanding the intense relationships that have been observed among some groups of football fans. Differentiating these forms of group alignment are the

individual's orientation towards collective or relational ties (Gómez et al., 2011, 919). With identification, *collective ties* with other group members are activated whereby other members are categorically interchangeable. In contrast, *relational ties* are activated in identity fusion whereby other members are unique and 'irreplaceable' members of a larger 'family'. So, while identified people may exhibit a bias towards their group and use shared emblems to express their alignment to it, their loyalty to the group will not necessarily extend to individual members. On the other hand, highly fused people have a porous boundary between the personal and social selves, resulting in both a connection to the group category and the sensation that other group members are unique individuals. Furthermore, fused people have a sense of reciprocal strength due to projecting their own, extreme pro-group sentiments on to other members.

Following from this literature review on group alignment, it is apparent that there has been a conceptual silence on some large issues that are covered in this thesis. Specifically, pathways to fusion are relatively unexplored (Buhrmester and Swann, 2015; Jong et al., 2015). I test the role of shared dysphoric experiences in generating identity fusion via transforming one's sense of self and heightening physiological arousal. This project argues that football fan crowd rituals have been so effective in attracting participants due to the exploitation of affective arousal. Dysphorically arousing rituals create flashbulb memories, generate reflection and, due to a false consensus bias, encourage participants to feel that those events that have transformed them have also transformed other participants in the same way. In line with elevating emotional arousal, euphoric arousal is also likely to heighten individual autonomy and pro-

group investment. However, due to less need to seek solace with co-participants or establish a sense of meaning, euphoria is unlikely to generate the long-term reflection and sense of shared, meaningful experience that dysphoria does.

I also extend current work around the outcomes of fusion, namely extreme pro-group action and outgroup hostility. Fusion theory presents a novel explanation for the self-sacrificial and, at times, violent behaviours exhibited by some group members: individuals act for their ‘band of brothers’, other individuals who have come to feel like kin through the sharing of particularly intense experiences (Whitehouse et al., 2014; Atran, 2016; Whitehouse, 2016). The outcomes of these kin-like bonds can be extremely pro-group, or in certain circumstances (i.e. under the perception of an outgroup threat), manifest in dangerous levels of outgroup hostility. Both of these outcomes entail significant policy-level implications. If we can better understand the different mechanisms associated with public good and social disruption, we are better placed to tap into these extreme motivations and harness them for the benefit of society at large.

## **2.3 Methodological approach**

The project comprises two distinct but interconnected strands (causes and consequences of fusion) and a multiplicity of methods are utilised. These include online surveys, laboratory experiments, field experiments, and an emergency intervention scenario (Appendix C). In this section, I outline the measures and procedures that we used for the studies. First, I provide an overview of the empirical chapters (4 – 8).

Chapter 4 comprises an exploratory online study with British Premier League fans ( $N = 725$ )<sup>6</sup>. The study in Chapter 5 was also conducted online but extended to fans of lower league teams, as well as the Premier League ( $N = 140$ ). Data for Chapter 6 was obtained in the field, at live World Cup games during the 2014 UEFA World Cup in Brazil, and utilised a range of psychometric, physiological, and behavioural measures. Participants in this longitudinal design included British and Brazilian spectators ( $N = 479$ ). The study for Chapter 7 was also longitudinal in design but was conducted online with British, Brazilian, and Spanish citizens ( $N = 829$ ). Finally, Chapter 8 focuses on violence among Brazilian hooligans, using an online design ( $N = 465$ ). As each study utilises its own specific methodologies, a more detailed description is provided with each empirical chapter. A general overview of these measures is provided below.

### **2.3.1 Existing and novel measures**

#### *Psychometric measures*

A number of validated scales relating to social bonding pre-existed this research, including those for both identity fusion and identification. Identity fusion research currently utilises three main measures: the verbal (Gómez et al., 2011), pictorial (Swann et al., 2009), and digital (DIFI) (Jimenez et al., 2016) scales. We use the verbal scale in this thesis, as it has the highest reliability (Swann et al., 2012). We also used a reduced three-item measure for fieldwork (Chapter 6). The DIFI has become available since the empirical phase of this project ended and will be highly useful for future, online studies. Fusion is treated as a

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<sup>6</sup> The Premier League comprises the UK's 20 highest ranked teams in a given year. The rankings of the UK's major leagues are: Premiership, Championship, League 1, and League 2. The current system replaced the former system based on the first, second, third, and fourth divisions.

continuous variable throughout the thesis and, as explained in 2.2.2 'high' and 'low' fusion refers to one standard deviation above or below the mean for a given study.

Many different identification scales are available to researchers. Fusion research initially utilised a conservative scale for comparison from Mael and Ashforth (1992) (Swann et al., 2009). As the effects of fusion have been shown to be distinct to those of identification, less emphasis is now placed on contrasting these two distinct forms of group alignment. One measure of identification that has not been contrasted with fusion, to our knowledge, is the specialised Sports Spectator Identification Scale (SSIS) (Wann and Branscombe, 1993), which is relevant to the samples used in this thesis. In the exploratory study (Chapter 4), we included this measure. As fusion produced distinctly different results from identification in that study, in support of other work, the contrast between identification and identity fusion was no longer central to the research and we opted for a simple single-item measure in later studies (Postmes et al., 2013), the results of which are available in each chapter's corresponding appendix (Appendices F – I). Overall, this thesis advocates the use of multi-item measures of identification that focus on group traits to contrast fusion scales, such as those used by Ellemers and colleagues. The limitations of using a uni-dimensional measure and possible directions for the future are further discussed in 9.3.

There were a number of gaps in the literature that are central to this thesis for which we devised novel scales, some of which were related to recent designs established by colleagues. These included measures designed to test: a sense of 'self-transformativeness' (Newson et al., 2016) (Chapters 5, 6 and 7); group loyalty in football fans (Chapter 5); sacred values for sports fans (Sheikh

et al., 2013) (Chapter 4); and self-reported activity in violent inter-group conflicts (Chapter 8).

### *Behavioural and physiological measures*

We utilised and modified existing paradigms, including: trolley dilemma scenarios (Swann et al., 2010a) (Chapter 4); outgroup hostility scenarios (Halevy et al., 2008) (Chapter 7); monetary donations (Chapter 6); emergency intervention designs (Levine et al., 2005) (Appendix D); and qualitative written responses to assess autobiographical memory (Chapter 4). We also included physiological measures to approach 'affect' from a different angle to previous work in anthropology (Richert et al., 2005) (Chapter 7). We could not include EEG measurements of brain activity, which would have been relevant to the research, due to lack of access in the field. However, we did investigate cortisol production and heart rate. Testosterone levels are also often linked to cortisol and heart rate analyses in the study of sports fans, but this was not directly related to our research questions so was not included in the designs.

### *Pre-existing databases*

We also utilised pre-existing databases wherever possible. Specifically, we took advantage of league tables that index the historical success of British clubs according to various variables, e.g. goals scored, games won, points accrued etc. (Chapters 4 and 5). These data came from Google fixtures for 2014-15 results, and statto.com for league tables that covered the last ten years to calculate long term 'Team Fate' variables. At the time of designing the first study there was no centralised database that standardised wins and losses so this was determined using simple but novel methodologies detailed in Chapter 4 and Appendix E.

Despite decades of research on identification in sports fans, there was not a publicly accessible database containing information on fan alignment.

*A note on timing the online studies*

Online studies are becoming an increasingly popular tool for accessing hard-to-reach populations and non-student (or less student-centred) samples (Buhrmester et al., 2011). However, there are a number of limitations to consider that affect the release of any football study. Timing is an issue when conducting research with football fans. For instance, recent victories and defeats are likely to have an impact on individuals' state fusion levels and may impact participants' perception of their teams and fan identities. Relegations, promotions, and media coverage are also likely to play a role in an individual's state group identity.

We controlled these variables as much as possible by conducting the research during 'lulls' in the football season, which were identified by observing the football calendar and discussing suitable study periods with a number of key informants. The most suitable period was determined as early – mid way through the season (October – late January, but avoiding Christmas). The summer period was also considered but this is when relegations and promotions are fresh in fans' minds and many clubs are involved in international tournaments that could also affect participants. I kept abreast of footballing news and did not release any surveys immediately after any particularly significant or noteworthy games (save for the World Cup studies where dysphoria was being explicitly assessed). All surveys were closed within 7-14 days to avoid fluctuations in team success. The same process applied to the

Brazilian league-based survey (Chapter 7). All online surveys were released using Qualtrics.

### **2.3.2 WEIRD research? Go WILD**

As will be demonstrated in Chapter 3, the bulk of SIT literature, certainly on sport fandom, is inherently WEIRD (Henrich et al., 2010), that is to say participants tend to be Western, Educated, Industrialised, Rich, and Democratic. In fact, most participants are under-graduate psychology students seeking course credits. Such a bias in sampling has led to questions about how generalisable these findings are. To try and tackle this issue, one key technique that we sought to integrate into our methodological framework was to aim to conduct research with 'WILD' populations (Appendix A). These participants are better described as Worldly, Independent, Local, and Distinctive. Working with WILD (rather than WEIRD) participants encourages: a diverse range of participants, reality-grounded research, increased ecological validity, more information on variation, and a push for novel methodologies.

The relatively recent realisation that the majority of psychology participants are WEIRD provided something of a wake up call to experimental branches of psychology, economics, and cognitive science (Henrich et al., 2010b; Henrich et al., 2010a; Henrich et al., 2010c). If data is to be treated as truly representative of the human condition, experimental fields need to extend beyond the study of this demographically peculiar sub-section of the globe. Social and cultural anthropologists are traditionally regarded as experts on the 'other' – in this case, the non-WEIRD. Over the last few decades, anthropology has undergone a series of transformations resulting in the emergence of new

approaches to the study of cognition and behaviour in relation to myriad human cultures (Whitehouse, 2009; Beller et al., 2012).

Anthropologists have forged a number of distinctive frameworks for studying the cognitive foundations of cultural transmission. These include, but are not limited to: cultural evolution theory, the epidemiology of representations and relevance theory, the cognitive science of religion, ethnographic semantics, neuroanthropology, and ethnoscience. Inter-disciplinary collaborations are at the core of these approaches, motivating the global emergence of several institutes<sup>7</sup>, professional associations<sup>8</sup>, and journals<sup>9</sup>. By teaming up with anthropologists, psychologists are better placed to collect data among non-WEIRD populations - reducing levels of laboratory artifice, yet retaining the explanatory power of carefully controlled experiments (Whitehouse and Cohen, 2012).

This is not always easy: not all social anthropologists are open to collaborating with experimental psychologists; global outreach is both financially costly (e.g. shipping materials or sourcing them locally and the cost of international flights) and time-consuming (e.g. designs must be contextualised; measures must be translated, and back-translated; and researchers must access participants in novel locations). Yet its array of international collaborations, novel approaches, tradition of working with non-WEIRD populations, and experience with the challenges of fieldwork, make anthropology well positioned to assist other disciplines in 'going WILD' by conducting more research into

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<sup>7</sup> e.g. International Cognition and Culture Institute (ICCI); Institute of Cognition and Culture (ICC, Queen's University Belfast) Institute of Cognitive and Evolutionary Anthropology (ICEA, University of Oxford); Laboratory for the Experimental Research of Religion (LEVYNA, Masryk University, Brno)

<sup>8</sup> e.g. International Association for the Cognitive Science of Religion (IACSR)

<sup>9</sup> e.g. JCC, Religion Brain and Behaviour (RBB), JIACSR

Worldwide, Independent, Local and Distinctive (WILD) populations (see Appendix A).

To start addressing some of the issues of uni-cultural designs inherent in studies of group alignment (Branscombe and Wann, 1991; Ellemers et al., 1997; Wann et al., 2005), this thesis is based on a cross-cultural investigation using British and Brazilian football fans, with reference to Henrich et al.'s (2010) critique of the WEIRD framework. The next chapter first evaluates current literature into group alignment among sports fans, before exploring the two cultural contexts within which this research is situated.

## Chapter 3

### Group alignment among football fans

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This thesis explores the causes and consequences of fusion among football fans. Nearly half the planet, 3.2 billion people, watched the 2014 World Cup (FIFA, 2015); few other group activities can boast such global participation. Football as both a national and club-level pursuit is clearly taken seriously by fans, who create clans or 'tribes' based on their group affiliations (Morris, 1981; Armstrong and Giulianotti, 1997; Giulianotti, 2002; King, 2003; Stone, 2007; Weed, 2007). Football matters so much for fans that researchers have noted a spike in death rates due to heart attacks in towns and nations hosting games (Witte et al., 2000; Carroll et al., 2002; Kirkup and Merrick, 2003). Extreme football fandom manifests itself in permanent tattooing, financial investment in season tickets and travel to away games in far-flung places, substantial amounts of time spent pursuing one's team, and football-related violence, or hooliganism. The groups that engage in these activities often become tightly bonded, becoming akin to family, in a pattern reminiscent of hunting, military, religious, or insurgent groups. Like these groups, football fandom occurs worldwide and is more often than not a male activity. Curiously, football commands extreme interest compared to other regional or national activities (e.g. ballet or even team sports like cricket). The combination of their global presence and their formation of social groupings reminiscent of other interesting groups make football fans a unique sample.

To date, no research has documented fusion among football fans, or indeed any type of sport fan. However, the examples of extreme group behaviours found among football fans suggest there is reason to believe that

fusion exists in this population. Furthermore, football fandom offers us a particularly special domain within which to study fusion: a global sample that is relatively accessible and which is likely to contain a range of fusion rates, from the extreme fan to the fair-weather fan. Understanding fusion in football fans may help provide answers to broader questions about human behaviour, such as why extreme self-sacrifice happens (Whitehouse et al., 2014; Sheikh et al., 2016) and how group bonding can be harnessed for social good (Whitehouse et al., 2013).

This chapter first provides a comprehensive overview of the literature concerning group alignment among sports fans and the outcomes associated with strong alignment to one's sporting group. This review and the gaps in the literature it identifies concerning *extreme* fandom, form the basis from which to conduct investigations into the cognition underlying fan behaviour using identity fusion theory. With a literature review of previous empirical work in place, the next part of the chapter highlights ways in which utilising a cross-cultural perspective benefits and extends our current understandings of sport fandom. I then introduce the cultural contexts within which the research is conducted (Brazil and England).

### **3.1 The psychology of group alignment in sports fans**

In this section, I provide an explanation of fan identities and group bonding within sport from evolutionary and social psychological perspectives. With respect to my research questions, I pay particular attention to literature concerning team fate, emotional arousal, ingroup biases, pro-group action, and outgroup hostilities. I also identify a current gap in the literature: explanations of the more extreme end of the fan behaviours, which includes high levels of group

commitment, such as tattooing club logos or even whole strips on one's body (de Groot and Robinson, 2008), fighting in the name of the club or ones fellow fans (Dunning et al., 1986; Dunning, 2000; Spaaij, 2006), or quitting one's job to attend costly international matches (Goddard and Sloane, 2014).

Perhaps owing in part to football's notable absence in mainstream sport in the USA (compared with American football, baseball, and basketball), football fans have not been as extensively studied in the field of psychology. However, studies on sports fans of team sports in general are still likely to be enlightening on topics of group alignment and the effects of winning and losing games. In this literature review, I include relevant, non-football studies but make it clear when those studies do not specifically include football fans.

### **3.1.1 Fandom from an evolutionary perspective**

Football has been described in evolutionary terms as both a 'pseudo-hunt' (Morris, 1981) and as a 'lek' within which male athletes can display and spectators can evaluate rivals (Lombardo, 2012). Status-driven explanations based on the idea that athletic prowess signals genetic fitness (De Block and Dewitte, 2007; De Block and Dewitte, 2009) have received popular attention (Bering, 2010). While sport may directly reflect desirable traits, such as strength or speed, athletic success may also be a kind of 'peacock's tail' – an energetically inefficient and potentially risky, variable trait, that makes one more attractive to the opposite sex (Miller, 1998) and helps us decide on appropriate cooperative partners, leaders, and followers (De Block and Dewitte, 2009). Whichever origin, according to these hypotheses, sport is sexy. As Jesse Bering (2010) points out, anecdotally 'jocks' do indeed tend to 'get the girl'. This concept even has some

empirical support. For instance, French university student athletes were found to have more sexual partners than non-athletes (Faurie et al., 2004). However, this study was based on self-reports, a particularly troublesome methodology for teenage boys reporting on sexual contact. Sport, from a Darwinian perspective certainly seems to be more than an 'arbitrary display of fitness' (Bering, 2010). This forms an interesting background as to why sport may attract participants, and perhaps spectators, but why do sports spectators *unite* over the losses and victories of a small group of players they are unlikely to ever meet?

One evolutionary account that places emphasis on spectators and fans comes from Winegard & Deaner (2010). They suggest that fandom is a by-product of coalitional psychology (Boyd and Richerson, 2005; 2009) that evolved to unify small-scale societies engaged in warfare. Winegard and Deaner (2010) focus on American football but their argument can also be applied to association football. Football teams exhibit a number of non-sport-related traits that make them comparable to warring groups. For instance, they:

1. tend to be connected with a particular territory;
2. wear highly distinctive group uniforms, and;
3. gain spoils after the game, e.g. material wealth, status, desirable mates.

According to this argument, spectators (particularly males) have lived in high-threat, combative environments throughout the ancestral past. In situations where these warlike features are present, individuals are more likely to survive by forming alliances with other individuals associated with their group or territory. According to Winegard & Deaner, allying with one team in a warfare

scenario is important due to high levels of male mortality in warfare. Female interest in sporting games is argued to be due to the negative reproductive effects associated with war. As sports teams are comparable to warring groups, fandom is considered to be 'the modern embodiment of our evolved tribal psychology' (Winegard and Deaner, 2010, 442). In response to the proposition that processes of socialisation could account for their findings, the authors argue that 'sex-typed' behaviours are often driven by biological factors and cannot be explained through socialisation alone.

One piece of evidence to suggest that males do indeed identify with sports teams more than women comes from a study by End et al. (2009), which found that men's obituaries were significantly more likely to mention sports fan identification (15.2%) than women's (5.2%). However, more would need to be done to try and pick apart the role of socialisation in sport fandom, potentially by looking at childhood fandom and variations in fandom across more or less gender equal societies. Though Winegard & Deaner propose an intuitively appealing theory, the cognitive mechanisms that actually bind spectators are left untouched by the authors. Winegard & Deaner's perspective on sport fandom is consistent with the view that supporters identify with their teams. Group identification, which is thought to have evolved alongside other 'tribal social instincts' (Boyd and Richerson, 2005) that allow the individual to reap the benefits of group living, is the perception that one belongs and is committed to a social group (e.g. Tajfel and Turner (1979a); Mael and Ashforth (1992), see 2.2.1). The next section explores this literature in relation to sports fans.

### **3.1.2 Anthropology, social psychology and fan identities**

Wann and colleagues' on-going investigations into the relationships between sport fandom, identification, and a host of psychological and behavioural outcomes constitute the bulk of psychological work on fan identities and group alignment (Wann and Branscombe, 1993; Branscombe and Wann, 1994; Wann and Dolan, 1994; Wann et al., 1999; Wann et al., 2001; Wann et al., 2003; Wann and Grieve, 2005; Wann, 2006a; End et al., 2009).

Literature on identification among sports fans is likely to be informative when considering questions surrounding fusion in fans. A key research focus in this thesis is emotional arousal following team defeat, a topic that has already been researched in relation to identification, though not as part of a causal chain leading to extreme social bonds (Hirt et al., 1992; Ellemers et al., 1997; Kerr et al., 2005). Although these pathways are not necessarily labelled as such in the current sports fan literature, taken together these studies are encouraging for the shared dysphoria pathway to fusion, i.e. that dysphoric and personally transforming experiences can trigger fusion (Chapters 4 - 7). As such, a review of identification literature in relation to sport fans is relevant to our investigations into the causes of fusion. This body of research mainly focuses on fans of local college athletics teams and the participants are nearly exclusively undergraduate students. This issue is approached by using the WILD framework in this thesis.

#### *Emotional arousal, team fate, and group alignment*

Emotional arousal is thought to play an important role in social cohesion. Briefly, anthropological literature has made valuable contributions to our understanding

of emotional arousal in football fans. Martyn and Taylor (1997) point to the importance of emotional arousal in football by suggesting that if religion is Marx's opium of the people and communicating to the masses (e.g. via television) is the Valium of the people (Moscovici, 1985) then perhaps football is the amphetamine of the people - functioning to ignite, rally and provoke. Cohesive ritualistic experiences, i.e. football match attendance, are also thought to be significant in identity construction by Haidt et al. (2008, 145). The authors describe the sensation and desire for *communitas* as 'the periodic loss of self, in the company of others with whom one shares an identity'.

The role of shared collective experience in football is also paramount to social anthropologist Weed (2007, 247; 249) who points out that pubs in the UK create a virtual stadium for fans to gather in and forge such social events. Weed is right to emphasise the social element of the match but misses an important difference between pubs and stadia: pubs host small, often relational, groups, while stadia are large and the display of categorical ties (e.g. wearing scarves or being assigned to specific areas etc.) are particularly important. As such, different forms of group bonding may occur in these different spheres. Similar emotions are evinced in either setting and, intriguingly, football lies beyond a pleasure principle explanation (Harvey and Piotrowska, 2013). Although games are often intense, for the most part the football match provides little pleasure - even victorious games tend to be stressful events until the game ends. It is thus important to recognise that fandom is about far more than the game itself, a point that many fans will readily support. The merging of self with group, via an intense, shared experience is precisely the grounds for this thesis. How do success and defeat affect fans psychologically, and what are the long-term effects

on group alignment, if any? Furthermore, why are some fans particularly likely to experience loss as dysphoric and become transformed by it?

It is clear that the successes and failures of one's group tend to influence our emotional states positively and negatively respectively (Leach and Spears, 2009). Indeed, in line with SIT, fans of losing sports teams typically report higher levels of negative emotions and lower levels of positive emotions than fans of successful teams (Hirt et al., 1992; Kerr et al., 2005). However, ethnographic studies tell us that the fans of the least successful football teams have notoriously loyal supporters.<sup>10</sup> Clubs often associated with failure and defeat are also documented as engaging in ferocious intergroup rivalries<sup>11</sup>. Such extreme group behaviours in the face of adversity run in opposition to cutting off the reflected failure of one's group (CORF-ing), a well-documented strategy related to identification in response to group failures (Wann and Branscombe, 1990; Ellemers et al., 1997; Kwon et al., 2008).

Wann and Branscombe (1990) outline that high-identifiers are less likely to cut off reflected failure (CORF) in the face of defeat than low-identifiers, but the authors show little or no recognition of how such experiences must impact on the fan's group identity in the long term. Even when a team wins, there are the nuances of the game to reflect on and become frustrated with, be it style or precision, and by the following week or even earlier, the team's fate is open once more. Although such high levels of group commitment in the face of continued

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<sup>10</sup> E.g. Blackpool has achieved little success historically but its fans have remained loyal PEARSON, G. 2012. An ethnography of English football fans. *Cans, Cops and Carnivals*.. Similarly, both Scottish clubs and Scotland's national team traditionally perform poorly in European tournaments but receive staunch support at both home and away matches GIULIANOTTI, R. 1995. Football and the politics of carnival: An ethnographic study of Scottish fans in Sweden. *International Review for the Sociology of Sport*, 30, 191-220..

<sup>11</sup> E.g. the hooliganism of Millwall fans, a team that rarely makes the Premier League and has suffered numerous relegations out of the Championship ROBSON, G. 2000. *'No one likes us, we don't care': the myth and reality of Millwall fandom*, Berg Publishers.

disappointment and loss could be explained by cognitive dissonance theory (Festinger, 1962; Salti et al., 2014), this thesis proposes an alternative path to group loyalty: 'self-transformativeness' via dysphoric experiences and the generation of identity fusion (Chapter 5 tests self-transformativeness and cognitive dissonance in relation to group loyalty explicitly). Alternatively, one might consider a complementary, 'silver-lining' hypothesis wherein fans of unsuccessful teams may seem particularly bonded because this is all they have. Rather than dissonance being the outcome of investing in one's group, individuals simply experience disappointment as their target group is each other (fellow fans), rather than the defeated team (club). This account is also considered in Chapter 5.

If the dysphoric pathway to fusion can be experimentally supported, then rates of fusion should be higher among football supporters whose teams lose frequently, while 'fair-weather' supporters will be more numerous in the support bases of more successful teams. For the latter group, identification may increase as a result of frequent, doctrinal exposure to the club. It is therefore predicted that strong identification with a club or fan group may take many years to develop, while fusion is not time-dependent; rather it is the result of intense dysphoric experiences that have enduring effects (tested in Chapters 4, 5, 6, and 7). The next question is what, in turn, follows high levels of group commitment? The next section discusses how the outcomes of group bonding can be both positive and negative, a number of which have been assessed in sports fans.

### 3.1.3 Outcomes of group alignment in sport fans

Two classes of fan behaviour are relevant to this thesis: pro-group sentiments and actions, and outgroup hostility. Both of these outcomes entail significant policy-level implications. If we can better understand the different mechanisms associated with public good and social disruption, we are better placed to tap into these activities and harness them for the benefit of society at large. This relates to encouraging football fans, situated within an industry worth billions, to perform charitable acts. Further, by increasing our understanding of ingroup loyalty, commitment, and outgroup hostility, we can hope to reduce football hooliganism and even non-football related violence or tension by conducting policy-oriented research on interventions for those at greatest risk of inter-group conflict, e.g. younger males.

#### *Pro-group action*

A number of studies have shown that some sports spectators highly identify with one another (Wann and Dolan, 1994) and that this leads to ingroup biases (Wann et al., 2001; Wann and Grieve, 2005), alters self-perception (Wann, 2006a), and has implications for pro-group action (Wann et al., 2001; Levine et al., 2005; Slater et al., 2013). As may be expected, highly identified spectators evaluate others who support their team more highly than they do spectators of other teams (Wann and Dolan, 1994)<sup>12</sup> and this effect is absent among poorly identified spectators.

Two studies with high ecological validity further support these findings. Focusing on football specifically, in an emergency intervention design, Levine et

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<sup>12</sup> This study was conducted with basketball fans, though this sport also be classed as a competitive 'war-like' sport and is therefore suitable for comparison.

al. (2005) showed that identification works at local and superordinate levels to enhance helping behaviour. They found that self-identified Manchester United fans offered more help to confederates who had fallen over in an experimental condition (identified by wearing a Manchester United t-shirt) than they did to either Liverpool fans or people wearing a neutral sports shirt. However, when primed for the superordinate category of 'football supporter' in general, there was no difference in the amount of help Manchester United fans offered to either fans of the same team or Liverpool fans. Interestingly, in this experimental condition Manchester United fans gave more help to football fans, regardless of team, than they did to those who could not be identified as a football fan (wearing a neutral sports shirt). We re-ran this study and faced a number of methodological issues (Appendix E), which may call into question Levine et al.'s experimental paradigm.

However, in support of Levine et al., an older and somewhat simpler study by Platow et al. (1999) achieved similar results. They placed three collectors for charity outside a stadium on match day and counted the donations from the home and the away fans to each charity – one of which was identified with the home team, one with the away team, and the other was neutral. As predicted they found an ingroup bias in the donations, but this result was only consistent before matches. Unexpectedly, after the game fans gave more to the collectors for the charities identified with the home and the away teams than they did to the collector for the neutral charity (as in Levine's study with respect to the super-ordinate prime condition). This suggests that fans were generically identified after the game, relative to before the game. However, the trend was reversed when taking team fate into account: losers contributed less to all the

collectors after the game while winners contributed more to all collectors and showed no preference across conditions. Pro-social behaviour thus appears to be related to levels of group alignment and the fate of one's team. More recently, Slater et al. (2013) used a virtual reality environment to test helping behaviour among Arsenal football fans. They found that fans assisted other Arsenal fans both verbally and physically in a threat situation more than they assisted a non-Arsenal football enthusiast (Slater et al., 2013).

A recent fMRI study on 'passionate engagement' in football fans has established neural correlates for loss and victory, but focused more on the reward pathway, rather than the affiliative aspect (Duarte et al., 2017). In addition, a neural basis for empathy and helping behaviour in relation to ingroup and outgroup demarcations has been found in football spectators (Hein et al., 2010). More broadly, neurocognitive processes associated with self-identity seem to lie at the root of empathy and the motivation to help ingroup members (Mathur et al., 2010). In relation to this, being empathetic increases helping behaviour more when the other is from the same culture (Stürmer et al., 2006). According to this latter study, helping behaviour varies as a function of degree of perceived similarities, suggesting that empathy is a proximate explanation for helping. Substantial numbers of football spectators consciously forge similarities with their co-spectators (e.g. by attending matches, wearing club kits, gaining knowledge about their team, and learning and singing chants). As such, these fan behaviours may have implications for both self-identity and empathy with other spectators.

The above laboratory, online and quasi-experimental field studies are all of interest to the psychology of group alignment and altruism, but could greatly

benefit from testing identity fusion and controlling for its effects on pro-social behaviour when studying identification. This thesis includes measures of both fusion and identification. The studies focus on the latter because we predict that identity fusion will produce the most profound effects on pro-group behaviour, particularly extreme pro-group behaviour.

### *Outgroup hostility*

Of all modern spectator sports, football is perhaps the most notorious for its fans engaging in aggressive and violent inter- (and in some cases intra-) group rivalries. In the UK, many fan groups have forged connections through social media and online forums, replacing the hooliganism that was once a threat to national security in the UK and is now more a memory, or part of the collective consciousness, rather than a prominent feature of fan experience. In other nations, such as Brazil and much of Northern Europe, hooliganism is still rife (see 3.2.5 for a brief literature review or Chapter 8 for an analysis of fan violence in Brazil). However, the question remains – what drives some fans to feel strongly enough against outgroups to commit atrocious acts of violence?

Answering this question has implications for our understandings of outgroup hostility in many other groups, particularly equivalent groups comprising young, disenfranchised males, e.g. ISIS's global network or neo-Nazi groups in Europe.

Threat is also key to perceptions of social identity. In sport, high-threat conditions result in highly identified American sports fans reporting a lowered social self-concept (Branscombe and Wann, 1994)<sup>13</sup>. Branscombe and Wann's results have been replicated in the field and were extended to show that the bias effect is most pronounced when the spectator is supporting the winning team

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<sup>13</sup> In this study, participants watched a Russian boxer beating an American boxer.

(Wann and Grieve, 2005). Furthermore, in a sample of university students, highly identified spectators were found to be more likely to consider enacting anonymous hostile acts against rival team players and coaches (Wann et al., 2001), even if this would not enhance their team's competitive edge (Wann et al., 2003). Such anti-social acts were reported to be most likely carried out by highly identified people following their team's defeat (Wann et al., 2005). The evidence suggests that variations in the degree of identification play a significant role in the extent to which spectators are willing to engage in anti-social acts on behalf of the group.

Wann et al.'s evidence for highly identified fans being willing to injure rivals is perhaps more exciting in terms of the extremity of behaviour than other work on fan behaviour, but these measures were self-reported, hypothetical, and limited to college student samples and therefore need validating in the real world. This thesis achieves this by using more heterogeneous samples throughout the chapters and asking about actual acts of sport-related violence in Chapter 8.

Although football fans specifically evoke aggressive or violent connotations, group alignments to one's club or fellow fans also have the potential to be harnessed to reduce inter-group conflict. A good example comes from on-going work on the use of football for conflict resolution led by the University of Brighton and the British Council in Galilee, Israel. Through their Football 4 Peace interventions, researchers have found an 'unqualified' improvement in community relations between Israeli and Palestinian children, teenagers and group leaders as a direct result of the football matches and numerous related, off-pitch activities they organised between the two groups in

Galilee, Israel (Sugden, 2006). Similar programmes to reduce inter-group conflict have since been conducted in other post-war regions, including in South Korea, Jordan, and Northern Ireland. The success of the Israeli – Palestinian study is undisputable but a qualification could help – did fusion levels change during the study? Did a sense of becoming defined or transformed by these football matches facilitate changes in fusion, i.e. did investigators interrupt the causal path to fusion that would normally take place in the Middle East (typically to one's ethnic group)? By applying the theory of identity fusion, positive applications, such as those in the work conducted by Football 4 Peace, can be analysed to extract the precise mechanisms that were helpful in alleviating conflict, and used in other contexts.

#### *Concluding pro-group actions and outgroup hostility among fans*

Although the research concerning helping behaviours and ingroup biases among sports fans is substantial, there is a big gap between these kinds of low-cost helping behaviours and the levels of commitment shown by some football fans in following their teams at great personal and financial expense through thick and thin. Evidence from research into identification suggests that impassioned sports viewing facilitates, and in turn is motivated by, strong attachments to particular sports, teams, and athletes. These ideas explain one type of sport fandom but do not account for the extreme displays of group commitment found in certain individuals or communities of extreme fans, e.g. British hooligans, Italian *ultras*, Brazilian *torcidas organizadas* etc. We propose that the theory of identity fusion explains such behaviours more fully.

### **3.1.4 Extreme fandom and identity fusion**

Currently, extreme fandom and a number of related issues, such as a focus on alignment to 'fans' as opposed to 'team' (see Chapters 4, 5, and 8), have been left relatively unexplored in the otherwise extensive SIT literature on sport fandom. Fusion theory may be able to tackle these gaps. In turn, football fandom may be an especially pertinent context of study for fusion research due to the range of commitment found in fans and the cross-cultural, global spread of football fandom. Work on identity fusion suggests that there is a quantifiable difference between types of group alignment. While identification is an expression of ethnic psychology and tribal instincts, fusion is about kin psychology, and has the potential to be hijacked by large groups (Whitehouse and Lanman, 2014). The projection of relational ties on to these larger groups, extended fusion, results in extreme pro-group sentiments and actions, normally reserved for close kin (Swann et al., 2014a; Swann et al., 2014b; Whitehouse et al., 2014).

This thesis proposes that fans who are happy to wear a team shirt, sing team chants and watch games are experiencing a different psychological phenomenon in relation to those fans who in addition to such behaviours, engage with feelings of deep personal investment, self-sacrificial behaviour and extreme pro-group endorsement. This latter group of fans will 'go down with the ship' and be more resilient to negative team outcomes; they may even become 'transformed' by these shared experiences and more profoundly fused to their groups.

The initial, exploratory survey I ran for this project was with fans of UK Premier League teams in early 2014. The sentiments of some of the survey's

most highly fused fans indicate, in their own terms, the extent to which die-hard fans invest in their group identity (emphasis added):

- *'Supporting a football club is a bond more than any other bond experienced. It really does become **the most important thing in your life** (work/marriage included)' (Hull City)*
- *'I remember the first time we won a home game against Newcastle in over 20 years. I'd been to several derby matches but we'd never won. When we scored it was **like total fulfilment; proof that we are the "chosen ones"**. When the final whistle went it was total elation, a massive high. Nothing else mattered' (Sunderland)*
- *[About a cup final] **'I had never felt so much emotion.** I very rarely cry or come close to tears but on the 22nd of January [I] felt every emotion possible. Ecstasy, sorrow and pride to name a few. It was significant because it represented progress for my club...history. Just as much as Hitler, Churchill and queen Victoria, its embedded in football forever'*  
(Sunderland)
- *'When the final whistle went I lost all notion of reason and of what was going around me **and let out emotion that I never knew I had** for half an hour' (Crystal Palace)*
- *'...when Ramson was injured by Shawcross...I felt sad and **remorse like he was my brother** i really wept bitterly' (Arsenal)*
- *'**We're not a club we're a family, one identity** although to others a club is just a club...crystal palace never give up, **as a team, a club, a family we move forward together through the good, the bad, through sun and***

*rain. As I see it, to truly appreciate the best times of life you must first experience the lowest of lows in life' (Crystal Palace)*

- *'[I] even tattoo'd my balls for the club' (Sunderland)*

In this thesis, I first seek to examine the distribution of fusion among sports fans. I then tackle two causes and two consequences of fusion. Theoretically, fans could be fused to a number of targets: the club at a symbolic level, the team or specific players, football fans in a broad sense, fellow fans of one's team, a smaller sub-group of fans, or even specific fans with whom the individual directly experienced or experiences games with. Though all of these targets could be enlightening, for this thesis, I primarily test fusion to two targets: club (categorical ties) and fellow fans (more akin to relational ties) to replicate and extend the focus of previous fusion research. Although the variation in fusion targets used in this thesis reduces comparability across studies, identifying appropriate targets was part of the learning curve<sup>14</sup>.

With the data compiled in this thesis, I argue that some groups of fans behave self-sacrificially and in violent ways out of their commitment to the 'tribe' of other fans with whom they have become fused through sharing particularly intense experiences (Atran, 2016; Whitehouse, 2016). Football fans provide a unique opportunity to test out the theory of identity fusion against the hegemonic principle that extreme self-sacrifice is motivated by extreme beliefs e.g. Harris (2005) So, rather than acting on extreme beliefs about football or

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<sup>14</sup> For the first study we tested fusion to 'club and fellow fans' (Chapter 4); chronologically, the next two studies tested fusion to 'nation' (Chapter 6) and 'national team and fellow fans' (Chapter 7). These produced markedly different results so in the remaining two studies (Chapters 5 and 8) we tested both relational ('fusion to fellow fans') and categorical ('fusion to club') ties. This final approach was beneficial and the different fusion targets produced different results, so a similar discrete approach to fusion targets is recommended for future research.

their club, football fans are acting for each other, for their 'band of brothers' (Whitehouse et al., 2014).

Football-related violence is not arbitrary. Instead, it tends to be targeted at specific outgroups. These are treated as rival bands of brothers who pose a threat to the ingroup; a threat to those people that have shared one's most intense experiences, the people that have been 'transformed' just like you. By finding evidence for such a theory in football fans, we can start to apply the same logic to other high-risk groups with a view to reduce social harm by generating research-driven policy. Chapters 5, 6 and 7 test self-transformativeness' role in fusion, and Chapters 7 and 8 test outgroup hostility specifically.

#### *Physiological arousal and group alignment*

A further issue that connects the literature on group bonding and sport fandom is physiological arousal. Psychophysiological measures can be utilised in the study of sports fans to investigate emotional arousal. Indexes of physiological arousal include heart rate, blood pressure, respiration, and cortisol production. Simply attending a football match is likely to increase arousal levels due to crowding and noise within stadia, but personal factors, i.e. being highly identified or fused to the group are likely to amplify this. Simple studies have shown that even being reminded of one's team heightens arousal (Hillman et al., 2000). Hillman et al. (2000) found that when self-identified sports fans were shown team-relevant pictures they experienced increased heart rate and rated these pictures as more arousing than non-relevant pictures. Regardless of identification level, participants also had an increased positivity for slow cortical potentials (a change in EEG activity) when seeing the relevant image, over the control. In a more elaborate study, van der Meij et al. (2012) tested Spanish fans'

cortisol levels in their homes or public spaces during the 2010 World Cup final and in a control setting on a non-match day. Although they didn't control food and drink intake as strictly as would be ideal for salivary cortisol analyses, they did find that cortisol production rose during the match for highly identified individuals, particularly males.

As arousal reduces information processing capacities, a simpler form of group categorisation may take place during high intensity group events (Kim and Baron, 1988)<sup>15</sup>. While identification increases stereotyping under conditions of arousal, Swann et al. (2010) show that fusion, not identification, moderates the tendency for increased pro-social behaviours under conditions of heightened arousal. This is due to fusion activating the personal self, as well as the social self, and a resultantly high personal investment in the group – even when acting as an individual. In numerous studies Xygalatas and colleagues have found that increased physiological arousal during firewalking rituals is associated with positive affect and a Durkheimian 'collective effervescence' (Xygalatas, 2008; Xygalatas et al., 2013; Fischer et al., 2014). Heightened arousal is thus posited to initiate the causal chain to fusion (potentially leading to a sense of becoming personally transformed by the shared experience) and has implications regarding pro-group behaviours, as shown by Swann et al. (2010). We test the hypothesis that fusion increases following an arousing event at live World Cup games in Chapter 7 by using a mix of psychometric, physiological, and behavioural measures.

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<sup>15</sup> For instance, Kim and Baron (1988) found that a cycling activity increased tendencies to target outgroups as having negative traits and, in his doctoral dissertation, Wann included a study on increased arousal via exercise leading to a decrease in complexity when describing individuals from an outgroup.

Although we do not measure testosterone in our physiological study (Chapter 7), it is important to note that vicarious victories also have a significant effect on fan testosterone levels (Bernhardt et al., 1998) and euphoric arousal may consequently have implications for testosterone-fuelled football-related disorder (Archer, 1991). There is scope for substantial research to be conducted on the effects of team success or loss, fusion to extended and local targets, physiological arousal, testosterone levels, and related behavioural outcomes in football fans. The results presented in Chapter 8 concerning Brazilian football hooligans may help pave the way for future investigations into these topics.

#### *Other explanations of fandom*

To date, no research has been published on sport fandom and identity fusion. Although highly fused fans are also likely to be highly identified with their group we would predict high-fused fans to engage in more extreme forms of fandom than low-fused but identified fans. These arguments demonstrate that SIT and fusion theory both have strong explanatory powers in explaining different aspects of football fandom. However, there are many further social, developmental and historical factors of relevance that are not investigated in this thesis.

For instance, there are other theories of social interaction, such as reciprocity (Gouldner, 1960; Boyd and Richerson, 1988; Gintis, 2000) or friendship (Dunbar and Spoons, 1995; Doreian and Stokman, 2013; David-Barrett et al., 2015) that may help further understandings football fandom. For instance, while some fans may invest in their club in terms of 'exchange' or reward for team success, highly fused fans are more likely to behave as if they were within a kin or close friendship group. These concepts may be

complementary to the association between identification and fusion and future research could seek to quantify these relationships.

Another perspective to consider is the ontogeny of sport fandom – how or why do some people become fans and not others? This needs to be considered both developmentally and socially. There is on-going work into the development of fusion but it appears that, in football fandom at least, one's lasting association with a club seems to develop in adolescence usually via parents or peers (Spaaij and Anderson, 2011; Pearson, 2012). Socially, there are relevant aspects of football's political and economic history that are likely to have contributed to individuals' emergent fandom. For instance, the proliferation of mass media has allowed more people to become connected to sport, while not necessarily fusing them. There's not scope to provide a detailed cultural history of football in this thesis, but further reflections on British and Brazilian football fandom are provided in 3.2 to better contextualise the research.

Finally, this thesis focuses on the causes and consequences of fusion among extant fans but future research could benefit from investigating ex-fans as a control group. This appears to be a neglected area of research in the sports psychology literature. Ex-fans, who are no longer bound to the group, could help us understand both de-fusion (Fredman et al., 2015) and, by proxy, potentially reveal the mechanisms required to bind active fans to one another or the club. Such a sample could also help alleviate the self-selection effect in fan samples.

### *Conclusions*

A limitation of the studies reviewed in this section is that the majority have exclusively sampled university students. Are North American college students representative of all sports fans? Do the attitudes of student sport fans ring true

of the hard-core supporter, whose main passion in life is his or her club and fellow fans? To test theories of group alignment and pro-group action in the groups that pose a threat to society (and the groups that pose the greatest opportunities for social change, e.g. hooligan groups or terrorist groups), researchers need to recruit less homogenous, more culturally diverse samples (Henrich et al., 2010c). We seek to address this by using a mix of student and non-student participants, and running studies in Brazil as well as England. We therefore hope to provide more generalisable results that can be applied to other highly fused groups. Due to its cross-cultural distribution and use of crowd rituals, football fandom is an ideal resource for the study of group alignment to non-religious, ritually motivated collectives more broadly. Alternative lines of investigation, such as reciprocity, friendship, and the ontogeny of fandom are important to consider and, although there is not scope to address theories apart from fusion in depth in this thesis, they may be complementary lines of investigation for future research.

In the next section I present a socio-cultural framing of group alignment in football fans to contextualise the psychological literature for the two main samples in the thesis – Brazilian and English football fans. This entails a more detailed review of anthropological literature, specifically on Brazilian and English football cultures, an appraisal of the WEIRD status of psychology and the WILD methodology we have developed in an attempt to address this.

### 3.2 Football in England and Brazil: the Beautiful Game / *joga*

#### *bonito*<sup>16</sup>

In this section I review Brazilian and English football cultures. In particular, I draw on similarities and differences in terms of histories, fan experience, league and national games, inclusion (race, ethnicity, class, sexuality, and gender), spaces occupied for crowd participation, and territories associated with organised football violence. Each of these topics has substantial anthropological and sociological literatures, but there is scope for just a brief background to the cultural contexts of this cognitive-based research. First, I provide justification for selecting these two nations to study group alignment among football fans, including: pragmatic reasons; the problems associated with WEIRD research; and the relationships between their socio-cultural football histories.

From a large number of candidate football nations, England and Brazil were natural choices for this thesis. First, England was selected for methodological and pragmatic reasons. Having grown up in England and within its football culture, but without being an avid football fan myself, I felt that I was suitably 'stranger' and 'friend' enough to work with English football fans with a detached eye (Powdermaker, 1966). Using largely online methods for the English fans, I approached the full spectrum of fans – from different clubs, classes, educational backgrounds, ages, races, and ethnicities. At the start of 2014, mid-way into my first DPhil year, it became clear that England would likely to play in the FIFA World Cup, allowing us to study live, international games.

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<sup>16</sup> 'The beautiful game' is a popular term for football in the UK. In Brazil, *joga bonito* translates as 'play beautifully', allegedly coined by Pelé. The literal Portuguese translation of The Beautiful Game (*o jogo bonito*) is also used in Brazil.

We then decided that comparing England with another World Cup team would be ideal, and Brazil was the favoured candidate. Not only was Brazil hosting the Cup, which in itself presented opportunities to include the maximum number of participants in an array of settings during live games, but they were a team with high odds of winning, which made an excellent comparison to England's historically weak national team. Brazil defied expectations and went on to suffer their worst loss since the 1930s, making for ideal conditions to analyse the effects of dysphoria, albeit without a natural control (euphoric) group (Chapter 7). We also had the opportunity to collaborate with a group at the Universidade Federal do Rio Grande do Norte (UFRN), who assisted with the physiological measures used in Chapter 7. This collaboration was then further developed for studies with Brazilian football hooligans in Chapter 8.

### **3.2.1 WEIRD and WILD research with football fans**

Football fans are a demographically rich group and present an opportunity to conduct WILD research (with participants that are Worldly, Independent, Local, and Distinctive – see 2.3.2 and Appendix A). For instance, apart from a potential gender bias in favour of males, British football fans are likely to be more diverse in terms of age, class, educational background, and ethnicity than samples derived from university subject-pools. By extending the studies included in this thesis cross-culturally to include a region from the Global South (Brazil), the samples become further diversified. The World Cup research included in this thesis was mostly conducted in Natal, in the North East, with a follow up study on hooligans in Rio de Janeiro and surrounding areas in the South. Both of these regions are more developed than much of Brazil with large cities, good infrastructure and relatively less poverty than non-urban regions. We sought to

maximise diversity by getting into the field and using FIFA endorsed 'Fan Fest' sites to approach the broadest variety of participants we could. However, all of our participants who completed the longitudinal phase of the study had access to the Internet, which indicates that they were Westernised, Educated, and Rich to varying degrees.

Although more remote populations may have served to tackle the assumptions generated by WEIRD samples, this was not the primary aim of the research and there was not time to extend the project to hard-to-reach communities. For the purposes of this project, that is investigating the causes and consequences of fusion in major clubs and national teams, more remote populations may have made poor comparison groups. This is due to political tensions and a systematic dis-engagement with national or regional teams that would have biased these groups to potentially appear less fused than urbanised groups, when really the fusion target was inappropriate for them. Ideally, follow up studies would engage with more rural communities to test these ideas. If the results hold across both contexts, they will provide more predictive power when generalising the findings to other populations. On the other hand, if the results appear to differ due to cultural context, further research questions will be generated about the ways that culture interacts with fusion theory and the shared dysphoria pathway to fusion hypothesis.

To achieve increased representational power, we aimed to conduct research in a WILD, rather than WEIRD, framework and used England and Brazil as our key study areas. In the next section I review socio-cultural literature on football fandom in Brazil and the UK. By comparing and contrasting these two footballing cultures, we see that they are complementary: both are famed for a

love of football, which triggers intense emotional arousal for fans; yet they are framed in distinct cultural histories with unique relationships between their focuses within football, people and inclusion (race, class, gender, and sexuality), and the spaces football occupies (pub vs. street culture; territories and violence).

### **3.2.2 History of football and football scholarship in England and Brazil**

The modern football played in England and Brazil is one of a family of ‘football’ games that has been played in the British Isles since at least the thirteenth century (Kitching, 2011). Football has become so engrained on the Brazilian sports psyche that two works of 20<sup>th</sup> century Brazilian fiction even locate association football’s origins in Brazil (Natali, 2007), though it is clear that similar games were played by indigenous populations long before the arrival of European settlers (Vianna, 2008).

Although overwhelmingly embraced, there have been dissident voices to football’s rising popularity in Brazil, such as Barreto (1921) who condemned football as European mimicry (in Natali, 2007, p271). The dichotomy between ‘freedom’ and ‘control’ in Brazilian football is rooted in the country’s history of colonialism, institutional racism, and oppression but notions of ‘freedom’ remain a powerful aspect of the aesthetic values placed on the game and its players today. Since Barreto’s time, football has progressed to become more racially inclusive (see 3.2.4) and Brazilian scholarship has come to focus on the bonding power of football (Lever, 1995; Maranhao and Knijnik, 2011; Bellos, 2014). For instance, Janet Lever’s ‘Soccer Madness’ (Lever, 1983; Lever, 1995) on football in Brazil emphasises the importance of shared interests, or shared experience, in uniting football fans – a concept that has been particularly poignant for heterogeneous Brazil.

In contrast, an anthropology of football was initially delayed in the UK, and instead Africa and South America were the points of focus (Armstrong and Giulianotti, 1997). Socio-cultural football research in Britain during this time was largely concerned with Marxist theory and the idea of keeping the 'dangerous class' down under capitalism, e.g. Taylor (1971). Psychology and sociology meanwhile focused on controlling and criminalising spectators, with a push for policy-oriented research that would tackle Britain's growing hooliganism problems (Taylor, 1971; Marsh and Harré, 1978; Dunning et al., 1986; Armstrong and Harris, 1991; Giulianotti, 1994). However, these perspectives only served to further confirm football 'types', rather than give voice to fans through exploring the nuances of fan experiences ethnographically.

Since the mid-1990s, more emphasis has been placed on the *communitas* or collective effervescence that is generated by football fan crowds (Armstrong and Giulianotti, 1997; Martyn and Taylor, 1997; King, 2002; Stroeken, 2002; Goldblatt, 2006; Stone, 2007; Haidt et al., 2008). Championed by Gary Armstrong and Richard Giulianotti, there is now a backbone of scholarship on British football, reflecting a broader trend in British anthropology of investing in indigenous culture, or 'anthropology at home'. In contrast to British anthropology's inward stance, British football is described as becoming increasingly cosmopolitan – even alienating lifelong working class fans in the process (Armstrong and Giulianotti, 1997; Giulianotti, 2002).

In a discussion on the commodification of football (particularly in Europe, but increasingly relevant in Brazil too), four spectator identities were compared by Giulianotti (2002). These include supporters, followers, fans and *flâneurs*, each of which is a combination of traditional, consumer, hot, and cold types.

Importantly, these types of spectators reflect the fact that football is situated within a wider cultural context and, while football has become more widely available via the television and Internet, ticket prices have gone up. Giulianotti (2002, 33)'s framework helps to define fan types sociologically, but little of this theory attempts to describe how spectators experience the game, relate to one another, or the cognitive underpinnings of group alignment (Chapters 4, 6, and 7 test these points explicitly).

Victory and loss, in terms of game and season outcomes, and the subtler ebbs and flows of individual matches, are central components of football, wherever it is watched. However, the ways in which fans experience matches entail certain cultural nuances. The next sections contextualize the samples used in the data chapters by comparing and contrasting three key areas in Brazilian and English football: club league vs. national tournament, people (class, race, ethnicity, sexuality, and gender), and spaces (pub vs. street; territories and football violence).

### **3.2.3 Club league vs. national tournament**

In both Brazil and England, strong support of a club tends to result in partial or total rejection of the national team (see Chapter 5)<sup>17</sup>. This is due to seeing the World Cup tournament as competitively inferior, as well as for pragmatic reasons. For instance, recuperation time for top club players is at odds with playing for the national team over the summer break (King, 2003) and the expense of travelling to international games is problematic for the majority of fans. Die-hard football fans are more likely to be heavily invested in their club

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<sup>17</sup> See Hart (2015) for an account of the superiority of club loyalty in the UK. HART, D. 2015. The 'club versus country' debate: investigating English fan loyalty toward club and national teams. *Soccer & Society*, 1-17.

than in their national team in either Brazil or England and it is within club-based leagues that the most extreme behavior appears. For example, around 30,000 Corinthians fans from Brazil travelled halfway across the world to support their league-level club in the FIFA Club World Cup – fans quit their jobs, sold their cars, and even their fridges to attend the match (Montague, 2012; Goddard and Sloane, 2014). Club affiliations have territorial elements relating to the position of stadia, and often comprise cross-generational supporter groups. As such, clubs are able to hold regional diaspora together when fans disperse across country or leave for new countries all together. In contrast, national level football can address imbalances of interest found in club football, i.e. more women are involved in national spectatorship than men (see 3.2.4).

Both club-level and national football entails relationships between team and place and, as such, patriotism is implicated in both. However, it is national games that provide an opportunity to enact symbolic national identities, and national rivalries become reinvigorated on the national stage (see Chapters 6 and 7 for a comparison of national and footballing identities). The key difference between the two nations studied here is that Brazil's top players are internationally recognised as being among the best in the world, making for a generally superb national team (2014 World Cup aside!). These players tend to be bought up by the European market, resulting in weaker league-level clubs. In Brazil, the aesthetics of the game are valued as much or more than discipline (Natali, 2007) and the Brazilian emphasis on *ginga* (free movement) is embodied in football (Rosa, 2015). In contrast, while British fans admire the Brazilian style, it is the German teams' structural precision (Milby, 2006) that they aspire to. The UK's Premier League is unrivalled in terms of being a global

export, due to buying in top international players, coaches and managers. However, with a relative dearth of home grown talent, development, or good management, the national team is comparatively weak and has not won the World Cup since the now legendary 1966 game it hosted.

### **3.2.4 People**

This thesis uses relatively broad samples of fans that include a range of ages, educational backgrounds, mixed ethnic backgrounds, and both males and females. The range of demographics broadly reflects the composition of the football populations. Though it is included in the present section for completeness, we did not investigate sexuality in this thesis, as it did not appear to be pertinent to our research questions. The present section gives some contextualisation to the demographic variables that feature in each of the data chapters.

#### *Class, race and ethnicity*

Despite historically middle-upper class roots in both Brazil and the UK, modern football has been coupled with the working classes for most of its lifetime. However, the traditions that fans appeal to are not unchanging practices and fan culture continues to undergo significant transitions, e.g. the shift in standing to seating terrace culture (King, 2002), hooliganism (Armstrong, 1998), anti-racism (Kassimeris, 2007), and possible current changes toward sexism, e.g. in the UK (King, 2003). Football's working class roots thus co-exist within a range of modern fan identities. To reflect this, we sought to gain a broad range of educational backgrounds for the data chapters.

In the UK, Taylor (1971) wrote about the shift in British football spectatorship in the 1960s. He argues that spectatorship moved from working class fans centred on local teams, active participation, and masculinity, to the 'bourgeoisification' of football entailing middle class spectatorship that focused on spectacle, skill, and family football (Giulianotti, 2002, 27). While the former, working class group considered themselves loyal members of a club tightly defined by territory and group membership, the latter group are paying customers who tend to be less affected by matters of loyalty and can thus take their investment elsewhere. Brazilian football started to become more of a commodity after the Brazilian dictatorship (post 1985), so while these shifts in fan type seem to also apply in Brazil, they have occurred more recently. Class in Brazil is inextricably linked to race, so racial divides and unities tend to be more of a focus for football scholarship than class.

In both Brazil and the UK, football has come to simultaneously represent racial tensions and racial harmony. In both contexts, football has a history of structural racism (e.g. an absence of black managers), and overt racism is still apparent at matches and in fan culture (e.g. racist chanting). In the UK, football support has traditionally entailed racist undertones and black players were not prominent until the 1970s (Goldblatt, 2006) when the second generation of West Indian immigrants became old enough to participate in football leagues. Rendered invisible by television networks, racism in stadia was rife and not just from far-right groups: whole crowds would join with inventive chants, drawing on centuries of prejudice and ignorance; physical attacks on black or mixed race fans were not uncommon; and crowds would throw bananas at black players during games. Asian players are still exceptionally rare across Europe and

football racism in the UK currently tends to be more Islamophobic than anti-Black (which perhaps reflects the composition of its football teams).

Related to national investment in anti-hooligan campaigns, namely the development of police tactics and stadia's crowd management in the 1990s, a number of anti-racist campaigns started to appear within British football. These include 'Kick it Out' and 'Show Racism the Red Card', as well as 'Football Against Racism in Europe' (FARE). In contrast, the only prominent Brazilian anti-racism campaign is 'Observatório da Discriminação Racial no Futebol' (Observatory for Discrimination in Football). This campaign is aimed at social media and lacks the stadia-level impact of UK campaigns so has had limited success. Racism is culturally embedded in British football (Cleland and Cashmore, 2016) but though it is still verbalised, it does tend to be challenged (Cleland, 2013). British football has gradually become a more inclusive spectator sport than in previous generations and the association between hard-core football fans and the far-right, e.g. the National Front (Kassimeris, 2007), has diminished. The UK's approach to reducing hooliganism and the racism tied up with football culture is now used as a model across the world (Stott et al., 2001; Spaaij, 2005; Spaaij, 2006; Stott et al., 2008) (see 8.1.1).

Brazilian football has been intertwined with class and racial conflicts from the start but a series of significant national wins in the late 1950s went some way to better integrate black and mixed race players, with Pelé becoming an international symbol for race-relations in football. Although racism is still prominent in Brazilian culture, football is felt by some to promote or even symbolise racial harmony by providing a way out of poverty for non-white young men, and providing a space in which the many ethnicities of Brazil can

unite for a common cause (see Brazilian socio-anthropologists: Maranhao and Knijnik (2011); Bellos (2014)). Issues surrounding race and ethnicity in Brazil also include indigenous rights and representation. Brazilian Indians are politically and economically weak but Brazilian football ethnographer, Fernando 'Fedola' Vianna, believes that football presents opportunities for social exchange and openings for the integration of Indians into urban Brazilian life. He also suggests that sporting events are one of the most visible ways in which links between tribes have been strengthened, for instance through inter-tribe tournaments (Vianna, 2008; Bellos, 2014).

Although the issues are far more complex and problematic than the narrative presents, in support of this, at the opening ceremony of the 2014 World Cup, three Brazilian children walked across the stadium and released doves as a pre-rehearsed nod to Brazilian ethnic diversity - one was branca (white), one preta (black), and one parda ('dark brown', indigenous). After releasing their doves, the indigenous boy from the Guarani tribe unfurled a 'Demarcation Now!' banner. Though this was edited out of national and international broadcasts it swiftly made its way across Brazilian social media and referred to the plight of a number of Brazil's indigenous tribes.

Football can be entwined with any social identity and, as such, can add further tensions to group conflicts via very public group defeats or victories. However, it also has the power to unify across racial, class, and ethnic boundaries - albeit with some help from large-scale campaigns or institutions. As David Goldblatt writes, '[l]ike every civil society, football is a source of the most profound forms of solidarity and imagined communities - though it offers no guarantees of harmony and peace' (Goldblatt, 2006, 171). We test a

particularly potent form of solidarity among football fans: identity fusion. An exciting avenue for future policy-oriented research could be into the role fusion in reducing the perception of racial or ethnic boundaries, i.e. can 'tribal' football identities trump racism (see Chapter 9.5)?

Returning to class, Brazil and England have different social class systems and there are problems with accurately measuring class in either culture (e.g. self-reporting biases, defining class etc.). However, we do include measures of educational background in all chapters, as well as measures of income in Chapter 8 (where we also control for ethnic background). Whilst controlling for these factors, we don't explicitly test fusion among fans in relation to class issues, which are potentially important factors for this thesis' research questions. For instance, how does class interact with cooperative interdependence among football fans: might working class fans exhibit more interdependence in the face of fewer resources and would this effect be buffered by the state in the UK? Is football less central in the lives of the middle classes, who potentially have access to a wider range of leisure activities? With increasing ticket prices, do the ways in which the lower classes participate in football affect their group identities (might gathering around a TV increase the sense of shared experience, compared to modern, corporate style 'mega-stadiums', or is the stadium still the most intense place to experience matches with other fans)?

### *Sexuality and gender*

Football was so true a product of Victorian Britain, that until the mid-20<sup>th</sup> century, anyone who wasn't a middle class, white, heterosexual, able-bodied male was excluded. Football culture has been described as a 'repository' of

homophobia (Goldblatt, 2006). Goldblatt also included racism in this description but levels of racism in football and the speed with which they are changing vary significantly across cultures. Homophobia however, appears to be relatively fixed in football and is perhaps its greatest taboo. In 2011, just one professional football player was openly gay (Cashmore and Cleland, 2011). This trend seems to be reflected off the field amongst fans (Caudwell, 2011) despite efforts to make the game more receptive to both gay players (Jones and McCarthy, 2010) and gay fans (Caudwell, 2011).

By limiting itself to a space dedicated to male heterosexuality, or the appearance of such, football can be seen to create an environment in which men are safe to express themselves emotionally in ways that may not normally be culturally permissible, e.g. to weep or hug and kiss other men. Taken a step further, at least one psychoanalytic approach has suggested that in the delicate liminal zone established by football crowd rituals, men are able to behave outside of normal conventions and enact their latent desires to excess by hugging and kissing other men in place of their male love-objects who play on the pitch (Harvey and Piotrowska, 2013). Although the latter account is perhaps a little extreme, and not one likely to be endorsed by your average football fan, the former rings true: football allows males to express the full range of emotions within any one match. The idea is particularly poignant in England where physical contact between males outside of contact sports and 'banter' is heavily restricted (Gefou-Madianou, 2002). Though Brazil is noted as having a particularly machismo culture, males are more freely able to hug, kiss, and touch one another in conventional interactions (Alvarez, 1990).

With all this 'excessive' male behaviour (Harvey and Piotrowska, 2013) occurring during football matches, what space is left for female identities? Football was nurtured in exclusively male domains and, led by Europe but mirrored in other parts of the world, attempts at women's football have been consistently marginalised (Goldblatt, 2006). Brazil even legally forbade women from playing the national sport until 1979 (Knijnik, 2012). Spectatorship at (male) matches, though not exclusively, has always been overwhelmingly male in most football nations, including Brazil and England<sup>18</sup>. This perhaps reflects women's participation in spectator sports more generally (Winegard and Deaner, 2010). More recently, Brazil has actively tried to integrate women into football by introducing concessions on women's tickets, and imposing restrictions on alcohol consumption within stadia. Such schemes are not necessarily rooted in feminism; rather, including women is a way in which to bolster sales in a declining market.

In England, socialisation into football culture now starts at a young age, with most schools encouraging girls to engage with football in physical education classes (Giulianotti, 2012). The bulk of the literature on gender and football concerns female players, as opposed to spectators, though it's clear that access to football has never been more open for women. However, as Giulianotti (2012, 159) points out, to engage with football's 'carnival culture' – certainly in nations with a working class history of football such as England and Brazil – women often participate in stereotypical male activities including 'heavy drinking, earthy language, and carousing'. Even when females are included, then, it is often within the constraints of masculinised identities. Fusion theory can

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<sup>18</sup> The USA and China are obvious exceptions to female exclusion in football (soccer), though they are not 'football nations', having a number of more prominent national sports.

contribute to these discussions by clarifying whether females fuse to these targets in the same ways as males. In this thesis, gender is included as a variable in all chapters and, where appropriate, additional analyses that control for gender are also included in the relevant appendices. The next section discusses the spaces that crowds congregate in for club events. These spaces tend to incur social boundaries that affect who can participate in group events and is telling in terms of how inclusive football really is in Brazil and England.

### **3.2.5 Spaces**

#### *Pub vs. street*

Football is watched in stadia, in the home, in communal spaces and, increasingly, on handheld devices, which means that fans can engage in events wherever their Internet connection permits. For much of the time fans choose to participate in football spectacles with others and as part of a group. For instance, once all UK clubs became seated-stadia in 1999<sup>19</sup> (Giulianotti, 2002), pubs became the ‘new terraces’, a space where fans can stand, chant and sing with surrounding fans: a place where ‘the male holy trinity of alcohol, football and male-bonding [could] come together’ (Weed, 2007, 238). Pubs also attract fans as spaces to watch matches for free, since the UK Premiership sold its broadcasting rights. However, big events, such as national games, must legally be aired for free and, since these are some of the most packed matches, it is clear that pubs serve a need for shared communal experiences. This focus on male, traditionally working-class spaces reflects the history of English fan culture and demarcates

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<sup>19</sup> Seated-stadia was in response to the Hillsborough disaster (1989) and continues to be disputed by some fan groups.

the boundaries of the imagined communities within it, potentially making it harder for women or gay men to enter.

In Brazil too, football is a communal experience (Lever, 1995). Although pubs do not really exist in Brazil (commercialised 'Irish pubs' excepted) there are plenty of bars to choose from. However, bars are not necessarily the leading place to watch a game outside of stadia: restaurants, cafes, shopping malls, street corner shops with TVs, local community centres, and even the television installed in a parked-up taxi are all commonly used spaces to gather to watch the game. To quote Mike Weed once more, the need for proximity is;

not to the sport event itself, but to other people sharing a communal experience in a space that has become a sporting place in which the 'moment' of the event can be collectively faced by all those co-present' (2007, 248).

This explanation rings true when witnessing either English or Brazilian fans: groups poised to take collective blows or swell with pride as they watch their club's events unfold before them. Chapter 7 utilises these shared spaces by testing a number of psychological and physiological measures in the field during live events. The extension of viewing spaces in Brazil is both pragmatic (few people owned televisions until recently) and a reflection of greater inclusivity in its fan and street cultures. All fans can join the crowd, and women and children have greater access to football communities.

The second element of the sporting experience according to Weed, which also holds in both nations, is the importance of re-telling the experience; of *having been there*. In cognitive terms, these shared and self-defining experiences trigger fusion (see 2.2.4 or Chapter 5). Although the desire to share football experiences with others applies to both Brazilian and English football fans, the

greater flexibility of viewing spaces in Brazil due to its street culture perhaps reflects a greater overall inclusivity.

It is not only the spaces that are physically occupied during a game that are revealing about fan culture, but also the notion of territory or ownership of space and the rivalries that grow around these territories. For instance, in the UK, fans of particular teams never use certain pubs due to their strong club affiliation. Across numerous regions of the world affected by football violence whole streets are off-limits for rival fans, particularly on match days. The next section deals with this form of territory in more detail.

#### *Territory: football firms and torcidas organizadas*

Chapter 8 investigates football-related violence, membership to hooligan groups, fusion, and pro-group activity and a specific literature review on the subject is presented in that chapter. However, a brief review is given in advance as notions of territory and violence appear in football more generally and an understanding of this is required to fully contextualise the overarching ideas behind this thesis, which recur in each of the data chapters.

Brazilian and British football crowds are largely male. While one is traditionally machismo (Alvarez, 1990), the other is traditionally noted as being somewhat emotionally repressive (Gefou-Madianou, 2002)– the former being ramped up by, the latter unleashed by, excessive match-day drinking. Groups of alcohol-fuelled men with collectively combative outlooks are the steadfast at football matches, so it is perhaps little surprise that football fans have gained an international reputation as hooligans. For the purposes of this thesis, ‘hooliganism’ describes what some fans *do*, rather than who they *are*. Hooligan behaviour is an umbrella term used to describe violent and sometimes co-

ordinated action against outgroups, including verbal abuse, destruction of property, and physical violence. This avoids the social stereotyping of previous hooligan research and, by focusing on actions rather than social types, provides a framework that will allow for future cross-cultural work (Lawther, 1972; Zani and Kirchler, 1991; Wakefield and Wann, 2006).

As outlined in 3.1, football fans fall on a spectrum from mild spectators to die-hard supporters. Die-hard, violent supporter groups tend to appear in certain contexts: most of Europe, particularly Italy (Testa and Armstrong, 2010), the UK (Armstrong, 1998) and across Eastern Europe (Spaaij, 2005); Australia (Spaaij, 2005); and Latin America<sup>20</sup>. In Latin America, two nations are particularly recognised for their football violence: Argentina, where hooliganism emerged independently from British hooliganism and is associated with a far higher death rate than in the UK (Duke and Crolley, 1996), and Brazil (Lopes, 2013), which has been influenced by both Argentinian and British football cultures.

According to Dunning (2000, 157), a common thread among predominantly male football hooligans is ‘masculinity, territorial struggle and excitement’. What actually distinguishes this subset of ‘hard-core fans’ is not involvement in an organised, violent group, but rather a dedication to one’s team and fellow fans. This includes both more match attendance and more potential for violence than the majority of fans (Armstrong & Harris, 1991). This mind-set and its associated behavioural outcomes are reminiscent of the highly fused

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<sup>20</sup> The African continent is noticeably absent from this list. Fans in African nations are reportedly involved in football-related violence, but it is of a spontaneous nature rather than the organised or militarised violence in Latin America and Europe GIULIANOTTI, R. 2012. *Football*, Wiley Online Library..

individuals engaging in combat in the Middle East as reported by Whitehouse et al. (2014) and Atran (2016).

Football 'firms' in the UK refer to organised groups of supporters who for the last 30 years, when the scene notoriously erupted, have called themselves casuals (after their clothing) or hooligans. In the early 1990s the UK's football hooliganism problem was internationally recognised and reached crisis point, leading to widespread crowd management interventions by both stadia and police. The legacy of Britain's football violence endures, forming a congruent part of pop-culture although the threat of physical violence, far less actual death, has greatly diminished. In contrast, Brazilian hooliganism took off in the 1980s, just as British hooligan culture was reaching its pinnacle (Lopes, 2013), and remains a prominent feature of the football landscape. Brazilian *torcidas organizadas*<sup>21</sup> now take inspiration from their European counter-parts including pyrotechnic displays in their pre-match routines. In recent years, clashes between rival supporter groups have become increasingly violent, resulting in injury, stadia bans, imprisonments and deaths (Raspud and da Cunha Bastos, 2013)<sup>22</sup>. As a result, Brazilian law dictates that opposing fans cannot be seated together.

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<sup>21</sup>*Torcidas organizadas* translates as 'organised fans' and refers to fans that are members of organised fan or supporter groups. These groups have a bad reputation for anti-social behaviour and violence. Violence among these groups is often also internal, leading to a greater risk of fighting within stadia – though Brazilian football matches are generally very safe to attend. *Torcidas organizadas* may also be related to territorial gangs. As cynical as one may be about corruption within football in the UK, it is recognised as a much more salient feature of Brazilian football with *torcidas organizadas* being subsidised by clubs (e.g. tickets exchanged for intimidation of opponent fan groups or political opponents).

<sup>22</sup> The number of football-related deaths of football fans has steadily increased in Brazil: 14 deaths 1999-2003, 14 deaths 2004-2006, and 14 deaths 2007-2008. Source: 'Brasil lidera ranking de mortes no futebol', [www.gterra.com.br](http://www.gterra.com.br), in RASPAUD, M. & DA CUNHA BASTOS, F. 2013. Torcedores de futebol: violence and public policies in Brazil before the 2014 FIFA World Cup. *Sport in Society*, 16, 192-204.

For some fans, football generates a profound sense of belonging that connects self with others, and group with stadium or territory. What triggers some fans to engage in these more costly forms of group commitment and could there be a positive side associated with high fusion? I return to these questions in Chapters 8 and 9.

### **Conclusions: English and Brazilian football fans**

Brazil and Britain share a love of football. Despite an array of cultural differences, the fundamental emotions attached to the sport and one's footballing comrades seem to echo across continents. This devotion to one's group can be seen in any number of other tight-knit, primarily male groups across time and space. As such, this project provides a unique opportunity to study tribal instincts cross-culturally.

Although I use quantitative approaches in the data chapters of this thesis, investigating the existing anthropological and sociological literature on English and Brazilian football fandom helped to develop reality-grounded research questions for this thesis. Furthermore, this literature review shows how important it is to avoid assumptions about fan identities, i.e. *who* may be a fan. Finally, this review provides a foundation for the key interpretations and arguments derived from the data in the coming chapters. The over-arching theory behind the thesis – that shared dysphoric experiences and an ensuing self-transformativeness are a pathway to fusion – is itself grounded in anthropology (Whitehouse, 1995; 1996; 2004). These qualitative backgrounds complement the quantitative methodologies used here by providing socio-historical contexts and thick description (Geertz, 1973). In turn, scientific methodologies help to unravel the paths to fusion with precision and to make

generalisations that can be applied in further contexts. The final section of this chapter presents an outline of the thesis and lists the questions investigated in each chapter.

### **3.4 Outline of thesis and research questions**

Having presented the major aims of the thesis and reviewed the literature on group alignment in Chapters 1 and 2, in the present chapter I evaluated current approaches to studying football fandom, and contextualised Brazilian and English football. Chapters 4 – 8 are data chapters, starting with construct validation among sports fans and an exploratory study of pathways to, and outcomes of, identity fusion in British football fans. In Chapter 5, I test an alternative hypothesis for group loyalty, cognitive dissonance, and show that while dissonance can account for group loyalty, self-transformativeness and identity fusion are stronger and independent pathways to fusion. Chapter 6 investigates fusion to nation and ingroup biases following the dysphoric events of the World Cup in England, Brazil, and a comparative nation - Spain. Chapter 7 also focuses on the World Cup but is concerned with fans' fusion to the Brazilian and English national teams and fellow fans in a longitudinal, field-based experimental design. This study employs physiological measures, in addition to psychological measures, and also tests outgroup hostility. Chapter 8 moves on to consider real life outcomes of fusion in Brazilian *torcidas organizadas* and provides a starting point for the development of theory around intervention strategies, which could impact on policy to reduce football hooliganism or harness it for the public good. Finally, in Chapter 9 a discussion of the data chapters brings together the key findings in relation to the previous literature review. Here I discuss over-arching limitations of the thesis and directions for

future work, particularly research that is planned for my postdoctoral research and related projects.

### **Major research questions**

**Chapter 4:** Here we run an exploratory study and test a) variation in fusion among football fans, b) the shared dysphoria pathway to fusion and c) extreme pro-group action and sacred values by asking the following questions: *to what extent does the identity theory fusion concept extend to a sport fandom context? Do shared dysphoric experiences lead to identity fusion and, if so, do fans of less successful teams tend to be more fused than fans of the most successful teams? Are football fans willing to endorse extreme pro-group actions? Are fused fans more willing to sacrifice themselves for the group than weakly fused fans? Does fusion explain variation in the 'sacred values' that football fans hold about their clubs?*

**Chapter 5:** This chapter investigates group loyalty and tests the shared dysphoria pathway to fusion against an alternative hypothesis: cognitive dissonance causes increases in fusion among fans of poorly performing teams. Specifically, we ask: *is fusion theory able to explain group loyalty independently from identification or cognitive dissonance theory? Is self-transformativeness a path to fusion? Does self-transformativeness following both euphoric and dysphoric events lead to fusion?*

**Chapter 6:** Here we explore the self-transformativeness component of the dysphoric pathway to fusion in more detail. We examine fusion to nation, self-transformativeness, and ingroup biases using a longitudinal, online survey following the 2014 World Cup. We select England, Brazil, and a comparative

nation, Spain, for our analyses, all of which suffered acute losses in football terms, and ask the following questions: *how does a dysphoric national sporting event affect fusion to one's nation? Does self-transformativeness drive individual changes in fusion? What differences exist between Brazil, England, and Spain, and what cultural factors might affect these differences? Do highly fused individuals donate more to the ingroup than weakly fused individuals? Are they more willing to fight and die for the group and is this resilient to defeat?*

**Chapter 7:** As national identity is only symbolically related to the World Cup, Chapter 7 targets fusion to national team a second, field-based study examining the longitudinal effects of the 2014 World Cup on personal and group identity. Having measured dysphoria using self-reported emotional difficulty, coded responses to qualitative responses, and long-term measures of team fate (Chapters 4 and 5), here we seek a more immediate measurement of dysphoria at live games. We use self-reported measures of affect as well as novel physiological measures – heart rate (HR), salivary cortisol production, and respiratory sinus arrhythmia (RSA). Extending work from Chapters 5 and 6 regarding transformativeness' role in identity fusion, we also test how long it takes to become sufficiently 'transformed' by a dysphoric event to impact fusion levels. Finally, we introduce the thesis' first measure of personally costly outgroup hostility. Here we focus on English and Brazilian supporters and ask the following: *how do dysphoric sporting events affect identity fusion over time? What drives individual changes? Can physiological measures better inform our understandings of the relationship between arousal and identity fusion? Are highly fused individuals willing to endorse outgroup hostility?*

**Chapter 8:** This chapter also examines outgroup hostility, but extends Chapter 7 by not only using an economic game but also considering real life outcomes of fusion in Brazilian *torcidas organizadas* (members of super-fan groups, often described as Brazil's football hooligans). We ask the following questions: *can fusion predict violence among football hooligans? Does fusion theory provide a better framework for hooliganism than a social maladjustment hypothesis? Precisely what is it about fusion that motivates self-sacrificial behaviours such as fighting with threatening outgroups and what role does psychological kinship play? Are there nuances in the outcomes of fusion to one's club (categorical ties), as opposed to fusion to one's fellow fans (relational ties), in terms of physical violence toward outgroups? And what makes some highly fused groups engage in inter-group conflict but not others?*

## Chapter 4

### Fusion among fans of the UK Premier League's football clubs

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Throughout human history people have fought and died for family, tribe, and country (Turchin et al., 2015). Here, in the context of football fandom in the UK, we<sup>23</sup> take first steps in an exploratory correlational study to plot the role of identity fusion in the extreme social bonding well-documented in football fans (Taylor, 1971; Giulianotti, 1995; Armstrong and Giulianotti, 1997; Armstrong, 1998; King, 2003; Goldblatt, 2006; Stone, 2007). There is a substantial literature on identification in sports fans (Branscombe et al., 1993; Wann and Branscombe, 1993; Rocca and Vogl - Bauer, 1999; Wann, 2006b; End et al., 2009; Wann et al., 2011) and this goes some way to explaining support within, and rivalries between, football clubs. However, it does not explain the extreme dedication found in some groups of fans. Some fans go beyond usual displays of group identification such as wearing the club shirt or learning chants and, in addition to these behaviours, engage in personally costly, extreme pro-group behaviours, such as attending distant away matches, tattooing club emblems, and partaking in inter-group fighting. In this study we investigate for the first time whether fusion and the extreme behaviours associated with it are present in a football fan population and, if fans can fuse, how this process might occur.

Based on decades of Whitehouse and colleagues' anthropological cross-cultural fieldwork, we posit that highly dysphoric experiences serve as an especially strong binding agent in human groups (Whitehouse, 1996; Atkinson and Whitehouse, 2011; Whitehouse and McQuinn, 2012) (see 2.2.2-3). Extending recent work on the positive effects of shared physical pain on co-operation, we

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<sup>23</sup> The studies in this thesis are collaborative efforts; see Appendix C for contributions to studies.

propose the precise nature underlying the relationship between social cohesion and pain, be it physical or social (Bastian et al., 2014). Following Whitehouse and Lanman (2014), we take a fractionated approach to social cohesion to suggest that football fandom works through two distinct cohesive modes: identity fusion and identification. While the latter has been studied extensively in sports fans (Wann and Branscombe, 1993; Wann and Dolan, 1994; Bernhardt et al., 1998; Giulianotti, 2002; Levine et al., 2005), we focus on the more recently discovered, more intense mode of social cohesion, which has not yet been studied in sports fans: identity fusion.

#### **4.1 Identity fusion and the imagistic mode**

Pro-group sentiments and actions that are typically regarded as extreme, such as dying for your country or religion, occur cross-culturally and throughout history (Mitchell, 2012). While evolutionary explanations of self-sacrifice for non-kin have progressed considerably (Hamilton, 1964; West et al., 2007) much remains to be learned about the proximate mechanisms involved. As explained in 2.2.2, the identity fusion approach offers a proximate psychological explanation for costly altruistic behaviour towards genetically distant individuals (Swann et al., 2010a; Sheikh et al., 2014; Swann et al., 2014a; Swann et al., 2014b). Although there is a growing body of literature concerning the outcomes of fusion, the psychological causes of fusion are still in the process of being established (Whitehouse and Lanman, 2014; Swann and Buhrmester, 2015). The next section discusses the causes of fusion that are investigated in this chapter.

### **4.1.1 The shared dysphoria pathway to fusion: dysphoric arousal and self-transformativeness**

#### *Dysphoric arousal*

Anthropological and experimental research shows that dysphoric experiences endure in episodic memory (creating intense or traumatic imagery) to form a stable, essential part of one's individual self-concept (Whitehouse, 1996; Richert et al., 2005; Conway, 2013) (see 2.2.4). Such negatively charged experiences are processed more thoroughly than are positively-valenced events (Baumeister et al., 2001). Believing that one shares harrowing, self-transformative memories with fellow group members via a false-consensus bias is thought to fuse the personal and social self, fostering long-term group commitment (Mullen et al., 1985; Swann et al., 2012; Newson et al., 2016).

Dysphoria is an umbrella term for an array of events experienced as distressing, e.g. painful or frightening. Initial studies of the effects of shared dysphoria on group bonding focused on religious contexts (Whitehouse, 1996; Whitehouse and Laidlaw, 2004; Whitehouse and Hodder, 2010) but in more recent years this work has been extended to non-religious ritual settings (Whitehouse and McQuinn, 2012; Whitehouse et al., 2013; Whitehouse et al., 2014; Whitehouse, 2016)<sup>24</sup>. This chapter tests Whitehouse's modes theory in a novel population, football fans, to see whether fans of unsuccessful teams are more fused as a result of the dysphoria they experience than fans of the most successful football teams.

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<sup>24</sup> In addition, a large ERC grant was awarded to Professor Whitehouse (2016-2021) to investigate the modes theory in non-religious settings in over 10 different countries. One strand of this project addresses conflict resolution based on the lessons learned from identity fusion over previous projects. This thesis lays the foundations for my post-doctoral position on the above project.

Dysphoria in football may be unifying enough to be considered a secular path to Whitehouse's imagistic mode. By sharing the event and all of its emotional upheaval with a group of fellow fans, we suggest that the boundary between personal and social self becomes porous through a process of reflection (Jong et al., 2015) and self-transformativeness (Newson et al., 2016) (see Chapter 5). Although unsuccessful teams may be frequently exposed to loss, these teams are also the most likely to suffer uniquely intense dysphoric losses (e.g. losses that lead to relegation), which could lead to the formation of imagistic groups of supporters (Atkinson and Whitehouse, 2011; Whitehouse et al., 2013). In this study, as a first step, we sought to test the hypothesis that fans of the least successful teams have the most highly fused fans and report the highest levels of psychological kinship with their fellow fans. The present chapter explores the hypothesis that it is the shared suffering of defeat that results in this fusion and psychological kinship.

We propose that intense dysphoria facilitates the relationship between team fate and fusion, but there is also reason to believe that a cognitive dissonance explanation could account for higher fusion among fans of the least successful teams (Festinger, 1962; Turner et al., 1984). Dissonance occurs when one's past actions are inconsistent with one's present beliefs. Fusion among fans of unsuccessful teams may therefore be explained as individuals attempting to reduce the mental distress caused by dissonance (i.e. 'my team has performed awfully, but I've been a fan for so long – I must really love them to do this').

Dissonance is primarily investigated in Chapter 5, but the present chapter includes first steps to suggest that while dissonance is indeed a path to group loyalty, fusion operates independently from dissonance. To test the hypothesis

that dysphoria underlies the relationship between team fate and fusion, rather than dissonance, we incorporated two proxy measures of dissonance in the present chapter. First, we investigate duration of fan support, the logic being that fans who have supported their club the longest would have the most dissonance to reduce when their team performs badly. Second, a dissonance explanation for pro-group action when the costs of membership are high requires that group alignment is chosen voluntarily (Whitehouse and Lanman 2014).

We therefore test whether fans who report having voluntarily chosen to support their club are more fused than those who report having been socially influenced (e.g. by friends or family) in their choice of club. These forms of social coercion are powerful in football culture (e.g. traditional father / son dyads, or peer groups supporting a local team together). It could be argued that we *choose* to surround ourselves with such people and listen (or not listen) to them. However, such social groups are (a) relatively fixed in youth when football allegiance is often formed and (b) hard to dismiss in terms of the social ostracism that can occur but not following group norms and conventions (Williams, 2007; Boyd et al., 2011).

### *Self-transformativeness and psychological kinship*

Sharing salient experiences is thought to give rise to feelings of psychological kinship, i.e. perceiving group members as family-like (Swann et al., 2014).

Willingness to incur personal costs for the sake of the group is common within families who, more than any other group, directly share the trials and tribulations of everyday life. Recent research suggests that family is the most common fusion target in a large sample of countries (Swann et al., 2014a).

Following Whitehouse and Lanman (2014), we predict that psychological kinship mediates the relationship between fusion and co-operation. Although fusion may have evolved as a way of fostering psychological kinship within small groups who were highly genetically related in the ancestral past, this mechanism appears to have been hijacked by cultural institutions that artificially put groups through shared ordeals, such as arduous initiations (Whitehouse, 1996), to create a sense of shared experience enduring in episodic memory (Whitehouse and Laidlaw, 2004). Such life-changing events not only transform personal self-concepts but, to the extent that they are undertaken with others, they become part of the shared essence of the group and trigger phenotypic matching, thus laying the foundation for identity fusion (Gómez et al., 2011; Whitehouse and Lanman, 2014; Newson et al., 2016).

Until now, discussions around the role of self-transformativeness have revolved around transformativeness following intense shared events (Whitehouse and Lanman, 2014; Newson et al., 2016) (Chapter 5 focuses on the role of transformativeness in the dysphoric pathway to fusion). However, it is possible that an individual may also come to feel transformed by the people with whom they first shared a love of the group. We might refer to this as *relational self-transformativeness*. If a sense of kinship was shared with these people, whether real kinship or a perception of kinship, then the individual's love of the group might take on familial qualities and trigger psychological kinship to the wider group. In the present chapter we explore these relationships by testing the hypothesis that relational transformativeness predicts fusion, a path mediated by psychological kinship.

Although identity fusion is thought to have evolved in a small-scale context, it can also work in big groups through the projection of relational ties on to an extended group (Swann et al., 2012). However, unlike identification, other individuals are recognised as being both social and unique entities with whom personal self-concepts are shared (Gómez et al., 2011; Bortolini et al., Under Review). As such, psychological kinship is diagnostic of fusion rather than identification. Fused individuals are not just co-operators; they are treated as kin (Whitehouse and Lanman, 2014), which translates into extreme pro-group action (Whitehouse et al., 2014; Atran, 2016). The next section discusses the consequences of fusion that are investigated in this chapter.

#### **4.1.2 Consequences of fusion: sacred values and extreme pro-group action**

##### *Sacred values*

For those who are fused with a group, the group's values may become 'sacred', further motivating extreme pro-group behaviours associated with fusion (Atran and Ginges, 2012; Sheikh et al., 2013). According to Atran (2016), when individuals fuse to sacred values the power of a society's moral policing is lessened and group members have a shared sense of significance. These values have the potential to unite individuals across geographical borders to form collectives, such as the 'Global Jihadi Archipeligo' described by Atran, and further strengthen 'familial ties' within a group. Once fused to a family-like group, individuals express a willingness to go to extraordinary lengths to protect their 'kin' (Swann et al., 2014a; Whitehouse et al., 2014; Sheikh et al., 2016).

Previous research on the relationships between sacred values and fusion has focused on groups that represent national, religious, or ethnic identities (Sheikh et al., 2014; Sheikh et al., 2016). To confirm the association between fusion and sacred values in a sample of football fans would be indicative of the generalizability of this construct. As a first step, we sought to confirm whether fusion predicts sacred values. In a novel step, we also investigate whether psychological kinship mediates the relationship between fusion and sacred values.

### *Extreme pro-group behaviours*

Fusion and identification relate to different forms of pro-group behaviour: fusion is associated with personal agency and the activation of both personal and social selves, while identification relates only to the social self and resultantly utilitarian thought (Swann et al., 2012; Fredman et al., 2015). Rather than reflecting cost-benefit considerations, fusion-driven extreme behaviours are deontological in nature and consequently, more extreme than the behaviours motivated by identification.

Empirical evidence shows that fused individuals express willingness to make personal sacrifices for the group in a variety of contexts, as detailed 2.2.5 (Swann et al., 2010a; Gómez et al., 2011; Swann et al., 2014a; Swann et al., 2014b; Whitehouse et al., 2014; Buhrmester et al., 2015; Swann et al., 2015; Atran, 2016; Bortolini et al., Under Review). Swann et al. (2010) attributed these elevated rates of self-sacrifice among highly fused group members to heightened agency among fused people. While agency is clearly an important factor in the extreme actions fused group members feel able to endorse, what is it about other group members that makes them *worth* dying for in the first place?

In line with Whitehouse and Lanman (2014), perceiving other group members to be kin-like transforms a committed group into a ‘band of brothers’ (Whitehouse et al., 2014). We propose that psychological kinship is a mediating factor that explains the initial, extreme pro-group mentality of fused individuals, as demonstrated by Buhrmester et al, (2015). We tested whether psychological kinship, in addition to fusion, would be higher among fans of unsuccessful teams and whether psychological kinship mediates the relationships between fusion and relational transformativeness, sacred values, and self-sacrifice.

## **4.2 Hypotheses**

H4.1: Fusion and psychological kinship are significantly higher in fans of consistently unsuccessful teams.

H4.2: Intense dysphoria underlies relationships between successful vs. unsuccessful clubs and fusion/kinship.

H4.3: Highly fused individuals are the most transformed by the people they first shared a love of their club with (i.e. they score highest for relational transformativeness), an effect mediated by psychological kinship.

H4.4: Highly fused fans are especially likely to sacralise club values, an effect mediated by psychological kinship.

H4.5: Highly fused fans are especially likely to endorse pro-group self-sacrificial behaviour, an effect mediated by psychological kinship.

### 4.3 Methods

For this study, participants of all Premier League teams were given the opportunity to participate to prevent the research purpose being revealed. However, the study was predominantly advertised to the relevant teams' fan groups (see the next section for details of the clubs under study). Ethical approval was obtained from the School of Anthropology and Museum of Ethnography Research Ethics Committee (SAME REC) in accordance with the procedures laid down by the University for ethical approval of all research involving human participants. An online questionnaire ( $N = 752$ ) was advertised across social media (i.e. Facebook, Twitter), on online fan forum groups, dedicated fan blogs and across student networks. The online nature of the study allowed the research to reflect the cross-national diversity of the cohort, as teams from across the UK were included. A £100 prize was offered as an incentive to complete the study.

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 ( $M_{\text{age}} = 39.50$ ,  $SD = 15.77$ , 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. 16.4% left education at or before the age of 16, 3.9% had an apprenticeship, 29.76% had college education, 30.2% had undergraduate education, and 23.9% had postgraduate education<sup>25</sup>. In terms of heritage, 91.4% described themselves as Caucasian, 1.7% Black or Mixed Black

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<sup>25</sup> This approximately reflects the educational background of the UK according to the 2011 census, although our sample was skewed toward participants with university education: 27.2% with a degree or above; 12.3% with college education; 3.6% with apprenticeships, 34.3% with secondary education, and 22.7% without qualifications.

heritage, 1.7% Asian or Asian heritage, 0.3% Latin American, and 5% did not report this information<sup>26</sup>.

### **Selecting clubs**

As we were primarily investigating dysphoria, we decided to focus on clubs that had experienced the most relegations, the most losses, and the lowest goal difference. To fairly contrast the most unsuccessful teams, we also selected the five most successful clubs. Statistics from the last ten years (stattoo.com, 2014) were used to select the five most consistently successful and the five least successful teams in the UK's top football league, the Premiership (also known as the Premier League). In this chapter, we wanted to contrast dysphoria-inducing teams directly with euphoria-inducing teams so it was appropriate to create a binary 'Team Fate' variable. We further explored the use of a 'team points' variable that provided a continuous measure of success (4.4.4).

By limiting the sample to only ten clubs we could focus analyses on the clubs in which we were most interested, which was useful pragmatically as well as statistically. Furthermore, in using the last ten years we have a longitudinal measure of dysphoria and the experiences are likely to be in the living memory of all participants (the youngest being 18). Table 4.1 shows the composition of fans in terms of the clubs they support<sup>27</sup>. Although we lost variability with this approach, it was useful to get a broad picture of the role dysphoria may play in

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<sup>26</sup> This approximately reflects the ethnic background of the UK according to the 2011 census: 87.1% Caucasian, 3% Black, 6.9% Asian.

<sup>27</sup> There was a 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 ( $N = 290$ ) (Table 4.1). We therefore re-ran all analyses excluding Sunderland participants and the pattern of results remained consistent (see Appendix E1). 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 following their sites.

fusion as opposed to euphoria. More details on the selection procedure are described in Appendix E1.

Table 4.1

*Selection of most and least successful UK Premier League teams*

<b>Team</b>	<b><i>N</i></b>	<b>Team</b>	<b><i>N</i></b>
Manchester United	29	West Bromwich Albion	26
Chelsea	27	Norwich	53
Arsenal	32	Sunderland	290
Liverpool	39	Hull	89
Manchester City	56	Crystal Palace	84
<b>Winning teams</b>	<b>183</b>	<b>Losing teams</b>	<b>542</b>

## Measures

Participants were first asked to select which club they supported. We then presented the measures in the following order: First, we asked demographic measures and how long the participant had supported their team. Identity fusion was assessed using the 7-point verbal scale ( $M = 4.28$ ,  $SD = 1.23$ ,  $\alpha = .89$ ) (Gómez et al., 2011), with reference to ‘my club’, which was defined as ‘you and your fellow football fans as a group’ (see Appendix B for items). Participants were asked to rate psychological kinship on a 7-point scale to the same target-group ( $M = 4$ ,  $SD = 1.51$ ,  $\alpha = .88$ ), based on measures used in Buhrmester et al., 2015 (see Appendix B for items). A limitation of combining fans and club in one target-group is that fan base size and heterogeneity is likely to vary between successful and unsuccessful clubs (indeed, the most successful clubs may have millions of

followers across the world, compared to support bases largely limited to UK towns). This may have led fans of successful teams to report lower fusion scores because they are aware of the large numbers of ‘fair-weather’ fans in their ranks. This possibility is discussed in 4.6.

This study was exploratory but we did include measures that, when taken together could be interpreted as a proxy of dysphoria: emotional arousal and emotional difficulty. Presumably if an emotionally arousing event is also emotionally difficult, it is likely to be dysphoric as opposed to euphoric. For arousal, participants were asked to write about an ‘important or meaningful memory’ concerning their club. These qualitative responses were coded by two independent coders on a 1 - 5 scale for how emotionally aroused the individual was [1 = *not at all*, 2 = *slightly*, 3 = *somewhat*, 4 = *moderate*, 5 = *intensely*, 0 = *unknown*]. The coders were provided with a crib sheet and feedback on their first set of codes, which were checked for inter-rater reliability using a third coder. Answers that could not be coded were excluded from analyses leaving  $N = 474$ . A mean score from the two coders was used for analyses ( $M = 4.57$ ,  $SD = 0.63$ ,  $\alpha = .67$ )<sup>28</sup>. Emotional difficulty was self-reported with the following item: ‘*How emotionally difficult is it to be a fan of your team?*’ [*not at all / only a little / somewhat / mostly / extremely*]. We used this measure and the emotional arousal measure together to provide an indicator of the dysphoria participants had experienced being a fan of their team. Limitations of this approach are discussed in 4.6.

To test relational ties, we asked participants who they first shared their passion for their club with (*no-one, family, friends, location, or ‘other’*).

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<sup>28</sup> We thank research assistants Ciaran O’Reiley and Emma Duchy-Bury for their work in coding quantitative data measuring arousal.

Participants were able to select more than one answer. We then asked participants how much those people had shaped them as a football fan on a 7-point scale [*they didn't shape me at all vs. they shaped me entirely*]. This measure is termed relational transformativeness.

The extent to which participants held sacred values about their club was assessed using a 7-point scale including the following novel measures based on original work by (Sheikh et al., 2013):

*Our football ground is hallowed ground and should never be moved*

*Our club's anthem or chant is special and should always be sung at matches*

*Our club badge or crest is sacred and should not be defaced or ridiculed*

*Our home strip is important to us and should not be changed*

*Our team name is special and should not be disrespected by being altered*

Endorsement of self-sacrificial pro-group behaviour was measured with a modified version of an intergroup trolley dilemma (Swann et al., 2010a) in which participants contemplated sacrificing their lives to save the lives of five fellow club members imperilled on trolley tracks (Appendix B). We asked participants how likely they would be to sacrifice themselves and to save themselves on a 7-point scale. We also asked whether they would sacrifice or save themselves in a forced choice question. We used this binary variable for our analyses.

## **4.4 Results**

### **4.4.1 Factor analysis for the sacred values measure**

First, we conducted an exploratory factor analysis. All 5 items correlated at least  $r = .25, p < .001$  with one another, suggesting reasonable factorability (Table

4.2). The Kaiser-Meyer-Olkin measure of sampling adequacy was .77, above the commonly recommended .6 value. Bartlett's test of sphericity was also significant ( $\chi^2 (10) = 1064.67, p < .001$ ). The diagonals of the anti-image correlation matrix were all over 7.2. Finally, the communalities were all above .37 (extraction, in order presented: .54; .62; .66; .38; .50). Based on these results, we proceeded with a principal components analysis as we sought to identify if there was a single factor involved, as with the original measure.

Table 4.2  
*Correlations for sacred values items*

<b>Variables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1. Our football ground is hallowed ground and should never be moved	-				
2. Our club's anthem or chant is special and should always be sung at matches	.54	-			
3. Our club badge or crest is sacred and should not be defaced or ridiculed	.54	.60	-		
4. Our home strip is important to us and should not be changed	.25	.27	.34	-	
5. Our team name is special and should not be disrespected by being altered	.32	.41	.42	.51	-

*Note:  $p < .001$  for all correlations*

A single component was suggested by the analysis. Initial eigenvalues indicated that the first item factor explained 53.91% of the variance and the other five factors explained 7.89 – 19.28% of the variance. Examination of the scree plot suggested one factor comprised the slope and the remaining factors comprised the scree. The single factor analysis was in support of theory that sacred values

among football fans would be inclusive of the five items. Thus we computed a mean score of the five sacred values for use in further analyses ( $M = 5.51$ ,  $SD = 1.06$ ,  $\alpha = .78$ ).

#### **4.4.2 Descriptive statistics**

Descriptive statistics and correlations are reported in Table 4.3. Of the 725 participants, 24.1% were willing to sacrifice themselves for imperilled group members on the trolley dilemma. Although fans of both successful and unsuccessful teams were likely to have supported their team for 21+ years, fans of unsuccessful teams tended to have supported their team for the longest,  $t(723) = -4.82$ ,  $p < .001$ . Q-Q plots suggested near normal distribution for our key variables among fans of both successful and unsuccessful teams (Appendix E3). 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, additional non-parametric analyses were not deemed necessary

Table 4.3

*Descriptive statistics and correlations for key variables*

<b>Vars.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. Fusion	4.31 (1.22)						
2. Kinship	.73 (<.001)*	4.02 (1.50)					
3. Emo. arousal	.18 (<.001)*	.16 (.001)*	4.57 (0.63)				
4. Sacrifice	.15 (<.001)*	.23 (<.001)*	.006 (.891)	-			
5. Emo. Diff.	.22 (<.001)*	.15 (<.001)*	.09 (.058)	.08 (.042)*	3.21 (1.19)		
6. Rel. trans.	.26 (<.001)*	.23 (<.001)*	-.008 (.874)	.11 (.003)*	.19 (<.001)*	5.40 (1.60)	
7. Sac. vals	.43 (<.001)*	.39 (<.001)*	.12 (.011)*	.09 (.017)*	.13 (<.001)*	.18 (<.001)*	5.01 (1.06)

*Note:* Means and SD (in parentheses) on the diagonal, Pearson's  $r$ 's and  $p$ -values (in parentheses) below the diagonal.

\* $p < .05$

### *Relational ties*

The results suggested that sport fandom in our sample had ontologically 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.

### *Demographic variables*

In preliminary analyses we found relationships between some demographic variables and the outcome variables (Table 4.4). Fusion, psychological kinship, and sacred values scores were all highest among fans who reported lower levels of education. People with lower education were also more likely to sacrifice themselves for the group. Younger fans were likely to hold more sacred values, report higher levels of relational transformativeness and emotional difficulty, and were more likely to sacrifice themselves for the group. Finally, females held more sacred values than males but there were no other gender differences.

We had no *a priori* hypotheses about these relationships in this exploratory study, nor were they central variables of interest to this particular study. However, we include analyses controlling for these variables in Appendix E4. These additional analyses suggest that demographic measures did not influence our results.

Table 4.4

*Correlations between key variables and demographic variables*

Variables	Education	Age	Gender
Fusion	-.23 (<.001)*	-.04 (.325)	.05 (.204)
Psychological kinship	-.24 (<.001)*	.05 (.146)	.06 (.124)
Emotional arousal	-.02 (.597)	.08 (.072)	.07 (.119)
Self-sacrifice (binary)	-.07 (.036)*	-.14 (<.001)*	.04 (.307)
Emotional difficulty	.01 (.794)	-.11 (.003)*	.03 (.457)
Relational trans.	-.003 (.937)	-.25 (<.001)*	.04 (.367)
Sacred values	-.22 (<.001)*	-.20 (<.001)*	.07 (.047)

\* $p < .05$ 

#### 4.4.3 Hypothesis testing

##### **H1: Fusion and psychological kinship are significantly higher in fans of consistently unsuccessful teams**

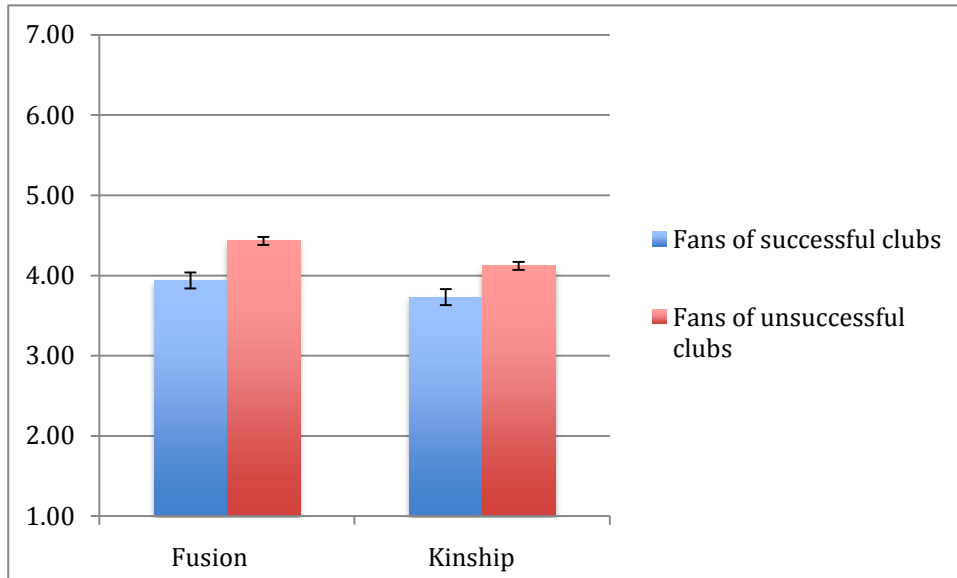
*Analysis:* To test rates of fusion and psychological kinship among fans of successful and unsuccessful teams, we conducted two t-tests<sup>29</sup>.

*Results:* Consistent with the hypothesis, fans of unsuccessful teams reported significantly higher fusion ( $M = 4.43, SD = 1.32$ ;  $M = 3.94, SD = 1.32$ ) scores than fans of successful teams  $t(723) = -4.84, p < .001$ , Cohen's  $d = .37$  (Fig. 4.1). Fans of unsuccessful teams also reported higher scores for psychological kinship ( $M = 4.12, SD = 1.45$ ) than fans of successful teams ( $M = 3.73, SD = 1.60$ ),  $t(723) = -3.13, p < .001$ , Cohen's  $d = .26$ .

<sup>29</sup> We re-ran all analyses comparing or controlling for identification, but did not find it to substantially alter our results (Appendix E5).

Fig. 4.1

*Mean fusion and psychological kinship for fans of successful and unsuccessful teams (95% CIs)*



## **H2: Intense dysphoria underlies relationships between successful vs. unsuccessful clubs and fusion/ psychological kinship**

*Analysis:* To test the mediational role intense dysphoria could play in the relationship between club performance, fusion, and psychological kinship, we followed the steps for establishing statistical mediation as described by Hayes (2013)<sup>30</sup>. We used Model 4 in PROCESS for SPSS to conduct this analysis. In the model, team fate (successful vs. unsuccessful clubs) was the predictor, fusion or psychological kinship the outcome, and self-rated emotional difficulty of being a fan of one's club and coded emotional intensity of participants' written memorable club experiences (i.e. our proxy for dysphoria) the mediators.

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<sup>30</sup> We acknowledge that testing for statistical mediation with cross-sectional data does not speak directly to issues of causality (see discussion).

Next, to see if a dissonance explanation was consistent with the data, we ran a chi-squared test to compare how long fans of successful versus unsuccessful clubs had been supporters. We then repeated each mediation model but included duration of support as a covariate in each model. Finally, we tested fans' relational ties by asking with whom they first shared their passion for their club – we suggest that dissonance is less likely to occur when a fan reports their group membership as having social roots, as the choice to support the team wasn't fully their own. We conducted a t-test and a chi-squared test to compare fusion and team fate between fans who reported lone vs. social origins.

*Results:* The results were in support of the hypothesis. First, we conducted two regressions in which team fate (successful vs. unsuccessful clubs) predicted coded emotional intensity of participants' written memorable club experiences and self-rated emotional difficulty of being a fan of one's club (i.e. the *a* paths)<sup>31</sup>. Fate predicted both mediator variables,  $b = .28$ ,  $SE$  of  $b = .07$ , 95% CI of  $b$ : .14, .41,  $t(472) = 4.13$ ,  $p < .001$ , and  $b = .60$ ,  $SE$  of  $b = .12$ , 95% CI of  $b$ : .36, .84,  $t(472) = 4.91$ ,  $p < .001$ , respectively, indicating that fans of unsuccessful clubs were especially likely to report high intensity experiences and high emotional difficulty. In another regression model with team fate, emotional intensity, and difficulty entered as predictors of fusion, both intensity and difficulty predicted fusion,  $b = .25$ ,  $SE$  of  $b = .08$ , 95% CI of  $b$ : .08, .41,  $t(470) = 2.94$ ,  $p < .001$ , and  $b = .16$ ,  $SE$  of  $b = .05$ , 95% CI of  $b$ : .07, .25,  $t(470) = 3.58$ ,  $p < .001$ , respectively, while controlling for fate. This result indicates that fans who reported emotionally

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<sup>31</sup> 69 cases were excluded from mediational analyses due to un-codeable information provided by participants. Additionally, including duration of support in both mediation models as a control variable resulted in null associations between it, the mediators, and fusion, and was thus dropped from the final model reported in the text.

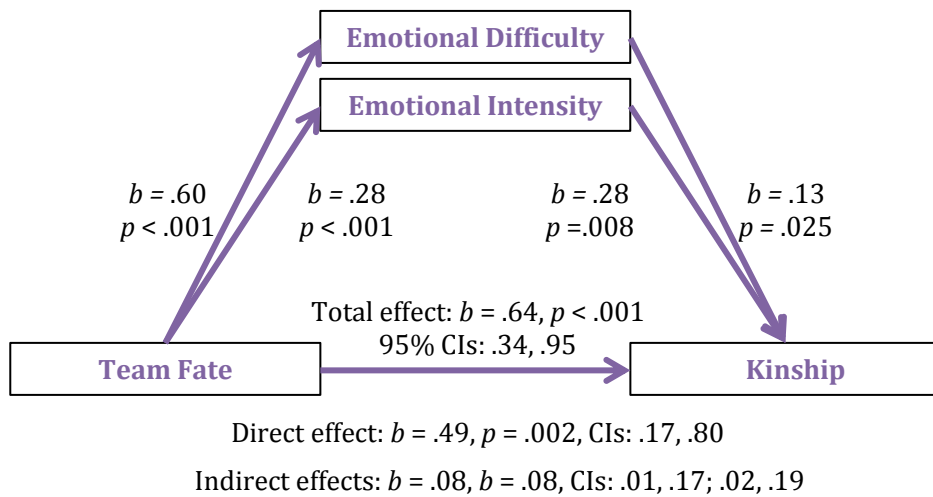
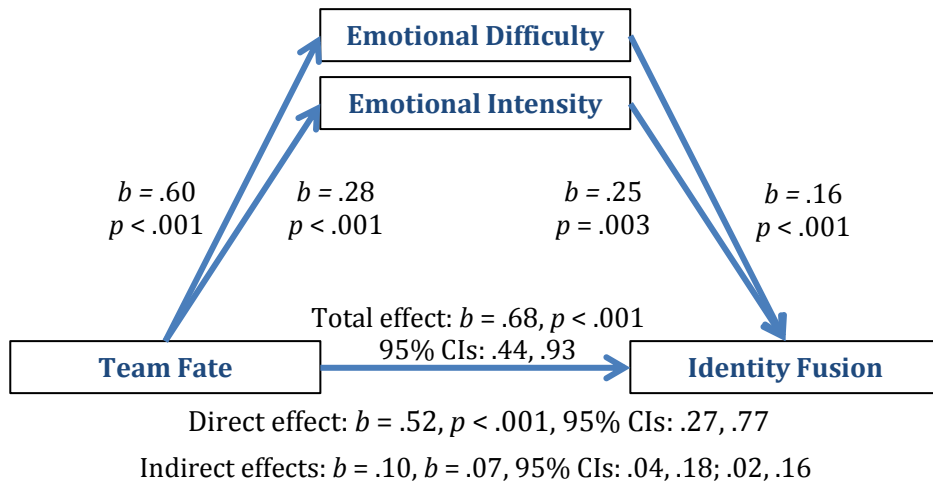
intense or difficult experiences were especially likely to be strongly fused to their club (i.e. the  $b$  path). In this same regression model, the direct effect of fate on fusion, while controlling for emotional intensity and difficulty, was statistically significant,  $b = .52$ ,  $SE$  of  $b = .13$ , 95% CI of  $b$ : .27, .77,  $t(470) = 4.14$ ,  $p < .001$ , model  $r^2 = .10$ . The test of mediation (i.e. computing the  $ab$  product term and bootstrapped asymmetric 95% confidence intervals,  $n = 5000$  boots) resulted in statistically significant indirect effects of fate on fusion through both intensity and difficulty,  $b = .07$ ,  $SE = .04$ , 95% CI: .02, .13, and  $b = .08$ ,  $SE = .03$ , 95% CI: .03, .16, respectively, suggesting partial mediation (see Fig. 4.2). Similarly strong results were found in support of intense dysphoria mediating the relationship between psychological kinship and team fate (see Fig. 4.2)<sup>32</sup>.

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<sup>32</sup> Further mediation analyses follow the same procedure as described in these results but are presented figuratively for simplicity.

Fig. 4.2

Mediation analyses with team fate the independent variable, identity fusion or psychological kinship the dependent variables, and dysphoria (emotional difficulty and emotional intensity) the mediator



*Accounting for a dissonance explanation*

The chi-square test showed that fans of losing teams were more likely to have supported their team for longer ( $\chi^2(1) = 21.93, p < .001, r = .17$ ) with 75.1% of losing fans supporting their team for over two decades compared to 56.8% of winning fans supporting their team for over two decades. However, this was not found to contribute to differences in fusion rates (see Table 4.5). In Model 4 (PROCESS), with 5000 bootstraps, we entered duration of support as a covariate in each model. In the fusion models, duration of support was not associated with either the outcome or mediators. In the psychological kinship model, duration of support was associated with the outcome, but the 95% confidence intervals for the indirect effects still did not cross zero.

Table 4.5

*Mediation analyses with duration of support the IV, fusion and kinship the DVs, and emotional difficulty / intensity the mediators*

	<b>Fusion</b>		<b>Psychological kinship</b>	
	<b>Emo. difficulty</b>	<b>Emo. intensity</b>	<b>Emo. difficulty</b>	<b>Emo. intensity</b>
DV:	$b = .02, p = .635$	$b = .01, p = .898$	$b = .09, p = .049^*$	$b = .13, p = .016^*$
Mediat.	$b = -.01, p = .724$	$b = .002, p = .929$	$b = -.01, p = .724$	$b = .002, p = .929$
Sobel	$z = 4.04, p < .001^*$	$z = 2.40, p = .017^*$	$z = 2.24, p = .025^*$	$z = 2.26, p = .024^*$

*\*p < .05*

Finally, fans with lone ( $M = 4.27, SD = 1.29$ ) and social ( $M = 4.32, SD = 1.22$ ) origins did not report a difference in fusion scores ( $t(719) = -.29, p = .769$ , Cohen's  $d = .04$ ), though there were significantly more loners supporting

successful teams compared to unsuccessful teams ( $\chi^2(2) = 12.69, p = .002, r = .13$ ).

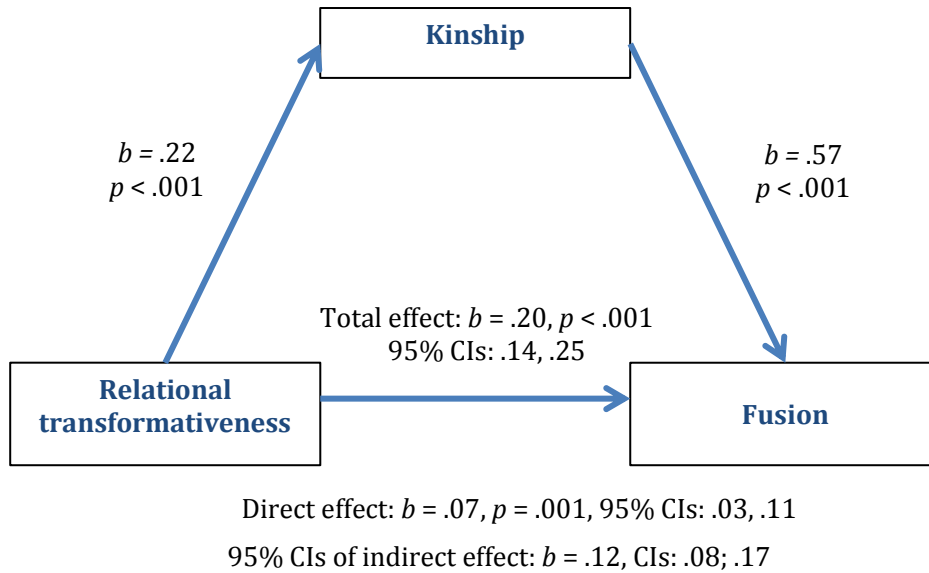
**H3: Highly fused individuals are the most shaped by the people they first shared a love of their club with, an effect mediated by psychological kinship**

*Analysis:* To test the role relational transformativeness might play in the development of fusion, we conducted a mediation analysis using Model 4. In the model the outcome was fusion, psychological kinship the mediator, and relational transformativeness the predictor. We then conducted moderation analyses using Models 7 and 8 by including the binary Ties to Family variable (0 = relational ties to family not reported; 1 = relational ties to family reported) as a moderator.

*Results:* In support of the hypothesis, the results indicated that people who reported feeling the most shaped by their relational ties also reported the highest psychological kinship and fusion with their fellow fans more broadly, suggesting partial mediation (Fig. 4.3). There was also evidence of a direct effect of relational transformativeness on fusion.

Fig. 4.3

*Mediation analysis with relational transformiveness as the independent variable, fusion the dependent variable, and psychological kinship the mediator*



There was no evidence of moderated mediation in either Model 7 or 8 ( $Index = .03$ , CIs:  $-.09, .16$ ). This suggests that while relational transformiveness predicts psychological kinship, it does not have to be a sense of transformation that emerges from relational ties to actual kin.

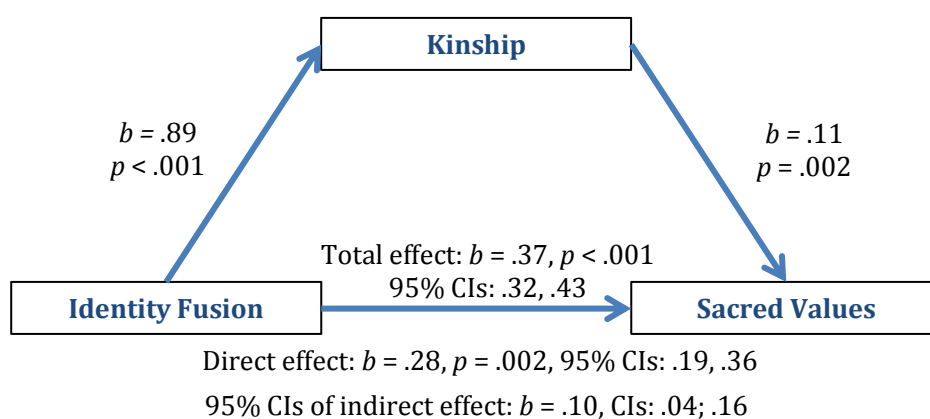
#### **H4: Highly fused fans are especially likely to sacralise club values, an effect mediated through psychological kinship**

*Analysis:* To test the relationships between sacred values, identity fusion and psychological kinship, we conducted a mediation analysis using Model 4. In the model the outcome was sacred values, psychological kinship the mediator, and fusion the predictor.

*Results:* The hypothesis was supported. The results indicated that high fused individuals who also scored highly for psychological kinship were most likely to hold sacred values about their club (Fig. 4.4). There was also evidence of a direct effect of fusion on sacred values<sup>33</sup>.

Fig. 4.4

*Mediation analysis with fusion the IV, sacred values the DV, and kinship the mediator*



**H5: Highly fused fans are significantly more likely to endorse pro-group self-sacrificial behaviour, an effect mediated through psychological kinship**

*Analysis:* To test the relationships between self-sacrificial behaviour, identity fusion and psychological kinship, we conducted a mediation analysis using the binary ‘sacrifice oneself’ vs ‘save oneself’ variable. In the model the outcome was self-sacrifice, psychological kinship the mediator, and fusion the predictor (Fig. 4.5).

<sup>33</sup> However, this mediation was not supported for Sunderland fans, who held significantly fewer sacred values than other fans (Appendix D2).

*Results:* The results supported the hypothesis. The predicted probability for weakly fused persons (-1SD from fusion mean) to endorse self-sacrifice was 18%. In contrast, the predicted probability for strongly fused persons (+1SD) to endorse self-sacrifice was 31% (Fig 4.5). Once controlling for psychological kinship, there was no direct effect of fusion on self-sacrifice, suggesting full mediation (Fig. 4.6).

Fig. 4.5

*Strongly fused fans are more likely to endorse self-sacrifice than weakly fused fans*

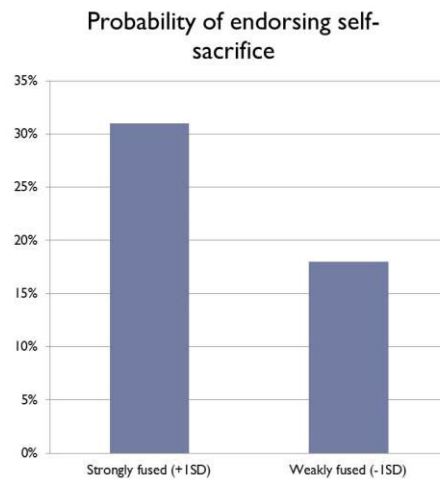
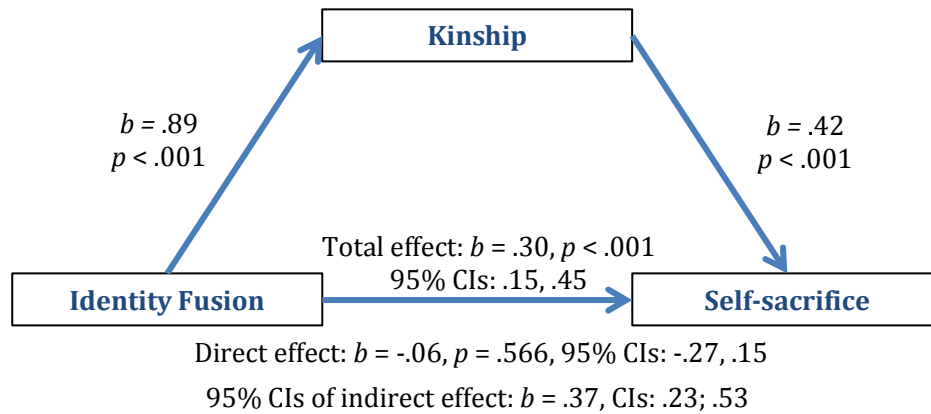


Fig. 4.6

Mediation analysis with fusion the IV, self-sacrifice the DV, and kinship the mediator



#### 4.4.4 Additional exploratory analyses

##### *Analysing team fate using team points*

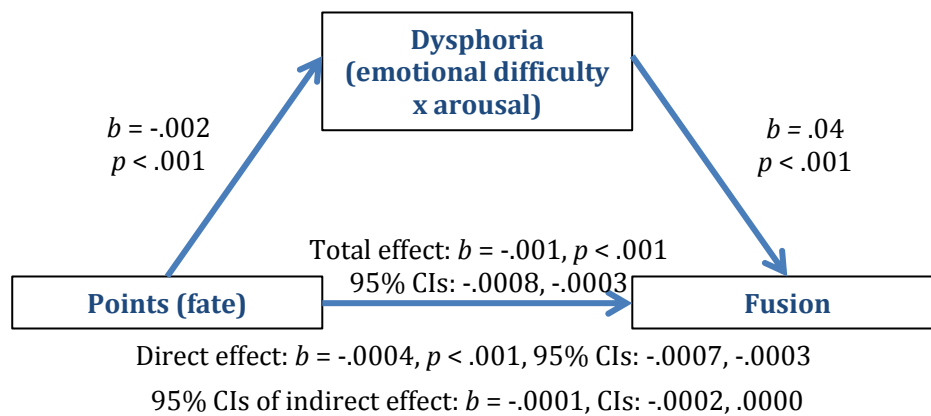
We noticed that within the successful and unsuccessful teams, there was some variation in fusion and psychological kinship scores, such that fans of the very least successful team (Crystal Palace), according to our analyses, was also the most strongly bonded, and the least successful of the ‘winners’ (Manchester City) was the most strongly bonded within the successful teams (Appendix E1). We then decided to investigate this relationship by using a scalar variable indicative of a team’s fate: points accrued by the FA over the last ten years.

A logistic regression showed that this ‘points’ variable explained 100% of the variance in our binary ‘fate variable, Nagelkerke  $R^2 = 1.00$ ,  $\chi^2(1, 725) = 819.21$ ,  $p < .001$ . Using a linear regression, we found that points also predicted fusion, such that the more successful the team was the lower the mean fusion of its fans was likely to be  $R^2 = .04$ ,  $F(1, 723) = 28.52$ ,  $b = -.001$ ,  $p < .001$ . We then ran a simplified model from Hypothesis 1, with points (fate) as the predictor,

fusion as the outcome, and the interaction between arousal and emotional difficulty (dysphoria) as the mediator. This model was significant (*Sobel*  $z = -3.15, p = .002$ ) (Fig. 4.7). This suggests that a simple 'points' variable could be sufficient for future analyses (as used in Chapter 5).

Fig 4.7

*Mediation analysis with team points (fate) as the independent variable, fusion the dependent variable, and dysphoria the mediator*



### *Relational transformativeness*

We also wondered whether relational transformativeness might act as a moderator in the fusion-kinship-outcome models (self-sacrifice or sacred values) so we ran Model 8 in PROCESS. We then tested whether relational-transformativeness might act as a second mediator using Models 6 and 4. There was not evidence to support a moderating effect for either self-sacrifice (*Index* =  $-.003$ , 95% CIs:  $-.02, .01$ ) or sacred values (*Index* =  $-.001$ , 95% CIs:  $-.005, .003$ ) in Model 8. Neither did we find evidence for relational transformativeness mediating the relationship between fusion and self-sacrifice in addition to

psychological kinship acting as a mediator, as the second indirect effect crossed zero (Ind2  $b = .01$ , 95% CIs:  $-.001, .04$ ). Nor was there evidence to suggest that relational transformativeness acted as a second mediator for the sacred values model, as two of the indirect effects crossed zero (Ind2  $b = .02$ , 95% CIs:  $-.001, .076$ ; Ind3  $b = .05$ , 95% CIs:  $-.001, .162$ ). However, when relational transformativeness was entered as a second mediator in Model 4, we found a marginal effect, which could warrant further investigation in the future (Table 4.6).

Table 4.6

*Relational transformativeness and psychological kinship as mediators in the relationships between fusion, sacred values and self-sacrifice*

Fusion-kinship-self-sacrifice		Fusion – kinship – sacred values	
Kinship	Rel. Transformativeness	Kinship	Rel. Transformativeness
$z = .33, p < .001^*$	$z = .04, p = .069$	$z = .09, p = .006^*$	$z = .02, p = .064$

\* $p < .05$

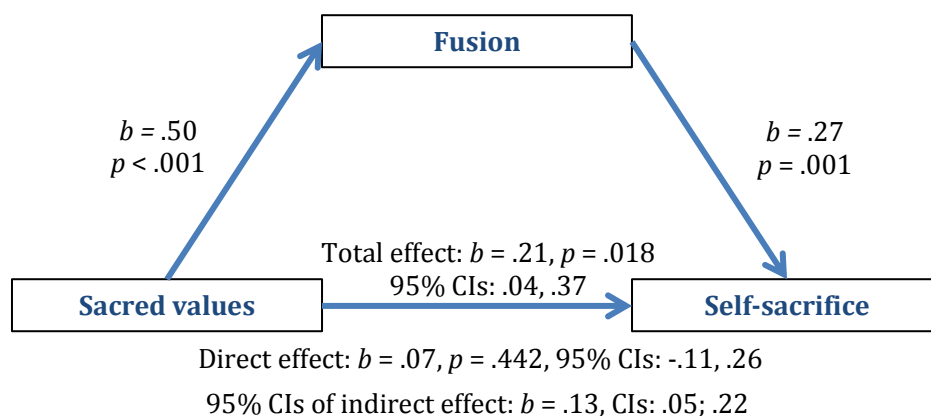
#### *Sacred values and self-sacrifice*

We wanted to check if self-sacrifice was predicted by sacred values, to validate previous research (Sheikh et al., 2014; Sheikh et al., 2016). To do this we ran a linear regression with willingness to sacrifice oneself as the dependent variable and sacred values as the independent variable. We then conducted an ANOVA to test for an interaction effect between fusion and sacred values and, based on these results, decided to use fusion as a mediator instead of independent variable by testing for its role in the relationship between sacred values and self-sacrifice.

The linear regression indicated that sacred values were also a predictor of self-sacrifice,  $R^2 = .01$ ,  $F(723, 1) = 5.72$ ,  $b = .04$ ,  $p = .017$ . We repeated this model but used the continuous self-sacrifice scale instead of the binary variable and found the former to be better predicted,  $R^2 = .02$ ,  $F(723, 1) = 12.19$ ,  $b = .23$ ,  $p = .001$ <sup>34</sup>. In support of Sheikh et al. (2016), there was an interaction effect between fusion to the group and sacred values in predicting self-sacrifice, such that while high fused fans were more willing to make costly sacrifices than low fused fans, this was especially true of fans who held sacred values about their club  $F(1, 723) = 18.16$ ,  $p < .001$ , partial  $\eta^2 = .22$ . We therefore decided to change the role of identity fusion from independent variable to mediator, and found a significant model (Fig. 4.8). This suggests that while fusion may lead to self-sacrifice in its own right, it also seems to play an influential effect on those who hold group values as sacred in coming to make sacrifices for the group. When we re-ran the model including sacred values as the mediator and fusion the predictor, the model was non-significant ( $z = .77$ ,  $p = .444$ ).

Fig 4.8

*Mediation analysis shows that fusion mediates the relationship between sacred values and self-sacrifice*



<sup>34</sup> Sacred values only predicted the continuous self-sacrifice variable after excluding Sunderland fans (Appendix F).

*A mediating role of sacred values on the relationship between fate and fusion?*

Although dissonance could be one outcome for long-term fans of losing teams, perhaps these fans have long since resolved their dissonance by caring less about results and focusing instead on other aspects of fandom. In this vein, we tested whether holding sacred values (that are immune to material incentives, such as winning or losing), would mediate the relationship between team fate and fusion. Those with stronger sacred values would therefore experience less dissonance in the face of loss. We ran the analysis using Model 4 in Process and found that the  $a$  path was not supported ( $b = .05, p = .550$ ). This discounts the dissonance hypothesis that sacred values would have a mediating role.

#### **4.5 Discussion**

In this study we examined the ‘tribal instincts’ at work among football fans in forming cohesive fan groups. Contrary to a common-sense assumption that successful clubs might have the ‘best’ fans (Wann and Branscombe, 1990; Ellemers et al., 1997; Kwon et al., 2008), in a large  $N$  British sample of Premier League fans we found that fusion and psychological kinship were significantly higher among fans of the least successful clubs. We also found that team fate was responsible for elevated fusion and psychological kinship among these fans. Moreover, emotional difficulty and intensity (i.e. dysphoria) mediated the relationship between team fate and fusion, suggesting that shared dysphoria leads to fusion.

We also found that fusion was associated with higher levels of relational transformativeness (a sense of becoming ‘shaped’ by the people one first experiences a passion for one’s club with). Highly fused people also reported

more fervently held club values and a greater willingness to sacrifice self for the group. Though correlational evidence does not directly speak to causality, this study, situated in a wider body of research, suggests that the underlying psychological mechanism producing these effects is psychological kinship (Swann et al., 2014a; Whitehouse and Lanman, 2014; Whitehouse et al., 2014; Buhrmester et al., 2015). Our results are consistent with a growing number of studies showing that identity fusion in other contexts (e.g. religion, politics) is a robust predictor of endorsements of extreme self-sacrifice for the group as well as other parochially altruistic actions, e.g. personal donations to group members (Gómez et al., 2011; Buhrmester et al., 2012).

#### **4.5.1 'Relational transformativeness', sacred values and self-sacrifice**

This study has identified, for the first time, the significance of relational ties in shaping or transforming an individual's group identity and the enduring effect that these ties have on group cohesion. Unlike the self-transformativeness derived from shared group experiences (Newson et al., 2016; Whitehouse et al., 2017), relational-transformativeness taps into relational ties by focusing on the first group members the individual experienced a passion for the group with. Chapter 5 investigates self-transformativeness following euphoric and dysphoric events but future research could contrast these two forms of transformativeness directly. We also found that relational ties did not have to be to actual family members to develop psychological kinship. The point at which psychological kinship emerges thus warrants further research: does transformativeness emerge from a kin-like group of relational ties, which then gets projected on to the broader group? Or, could it be that psychological kinship grows from having been so shaped by the people one first shares a passion for the group with?

In support of previous research, fusion was associated with both sacred values and self-sacrifice (Sheikh et al., 2016). We extended this work to identify a mediator of these relationships – psychological kinship. Highly fused individuals were the most likely to hold sacred values and endorse self-sacrifice and it appears that feeling a sense of kinship with the group strengthens these relationships. However, psychological kinship did not mediate the relationship between fusion and sacred values for Sunderland fans, perhaps because they held significantly fewer sacred values than other fans. These fans are also the most left-wing group of fans in the Premiership so there is the potential for their socio-political ideals to leave little room for club-specific values (YouGov, 2016) (see Appendix E2 for a more detailed discussion on sacred values among Sunderland fans).

In contrast to research from Shekih et al. (2016), fusion correlated significantly with sacred values ( $r = .43, p < .001$ ), which may be because the fusion and sacred values items in our study included the same target ('the club'), while the targets in Sheikh et al.'s study did not explicitly overlap ('kin like group of friends' and 'sharia' or 'democracy'). In our exploratory analyses, we found evidence to suggest that while fusion is a *predictor* of self-sacrifice, it also *mediates* the relationship between sacred values and self-sacrifice. This suggests that while fusion may lead to self-sacrifice in its own right, it also seems to have an influential effect on those who hold group values as sacred in coming to make sacrifices for the group. Just as identity fusion has been shown to enable low-power groups to prevail against materially stronger counterparts in reference to jihadi actions on behalf of the Islamic State (Atran, 2016), we propose that identity fusion also maintains fan commitment to the poorest performing clubs.

Atran's growing body of research on identity fusion and sacred values would benefit from differentiating the constructs and developing a standardised tool for testing sacred values.

#### **4.5.2 Alternative hypotheses**

Dissonance theory has a long history and is likely to account for some fan behaviours among poorly performing teams (Aronson and Mills, 1959; Festinger, 1962; Gerard and Mathewson, 1966). In the present chapter, our results were generally inconsistent with an alternative dissonance hypothesis. For cognitive dissonance to occur, one's prior behaviour needs to be perceived as voluntary (Whitehouse and Lanman, 2014). Our data, however, suggest that the vast majority of became affiliated via the social pressures of close relationships rather than joining independently. This reduces the degree of 'voluntary' group membership due to the potential for ostracism and ridicule. Due to shared monitoring and the significance granted to team-based gossip among sports fans, the risk of social exclusion may be judged more harmful by fans of poorly performing teams than the time and monetary costs of supporting their team in relation to their team's success.

Nonetheless, the measure is open to broad interpretation. We therefore included a second test for this alternative hypothesis: duration of support as a proxy for dissonance. We found that while relational transformativeness and team fate predicted fusion, duration of support did not. In contrast, duration of support predicted identification (as did team fate) but relational transformativeness did not (see Appendix E5). Nor did we find sacred values to mediate the relationship between fate and fusion, as might be predicted by a dissonance hypothesis.

Chapter 5 tests dissonance theory explicitly by investigating whether past investment in one's club (measured via duration of support and team points) could account for group loyalty better than identity fusion. An alternate test that could be conducted in the future would be to (a) test whether fandom really is voluntary (measured more directly than our current test), and (b) establish whether fusion is higher when people report voluntary selection of poor performing team. Based on the ethnographic period preceding this thesis, I would suggest that the majority of fans who select teams voluntarily would be classed as 'fair-weather' fans, who switch when their team performs poorly. Ultimately, we found strong support for the hypothesis that psychological kinship and relational ties cause fusion and this path appears to be independent from dissonance explanations.

In the present study we also explored whether a self-selection account could explain our pattern of results. Specifically, might our sample of fans from unsuccessful clubs (i.e., those willing to participate in a survey) be especially fused and misrepresent the population? If self-selection were a consistent explanation, we would expect severely non-normal 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 (Appendix E3). This suggests that the populations of supporters for successful and unsuccessful teams were similarly distributed but with different overall means. We also questioned participants' duration of support, to check that fused fans had not simply supported their teams for longer than identified fans. Models did not find duration of support to explain differences in fusion rates between fans.

### 4.5.3 Implications

In line with earlier suggestions that intensely dysphoric group experiences lead to a perception that ‘what makes me, me’ is shared with group members (Swann et al., 2012; Whitehouse and Lanman, 2014), we found that fans of the most long-suffering teams reported the highest levels of fusion and considered their peers to be more like kin than did fans of consistently successful teams. Further, the effect of fate on fusion appeared to be mediated by dysphoria as characterised by two related affect-laden qualities cemented in memory: intensely emotional experiences and the emotional difficulty associated with group membership. Both imagistic and doctrinal methods of group formation may be utilised by a cultural institution but, as has been found with rebel groups in Libya, groups tend to rely on one mode more heavily than the other (Whitehouse and McQuinn, 2012). We therefore suggest that the mass-marketing seen in the top football clubs reflects their preferred method of social cohesion; a doctrinal approach. Poorer performing teams may also benefit from having identified fans but can also take advantage of team defeats and the ‘tight-knit’ brotherhoods resulting from identity fusion.

The importance of imagistic fusion in solidifying groups for big game hunting and warfare has been pointed to elsewhere (Whitehouse and Hodder, 2010; Whitehouse and Lanman, 2014). Interestingly, modern football’s popularity has been associated with both of these high-risk activities. Indeed, football can be seen to activate evolved psychology associated with warfare and hunting in modern fans: with typical football terms like ‘attack’, ‘shoot’ and ‘strike’ being operative hunting words (Morris, 1981); and the game resembling war-like patterns in its clearly defined oppositional teams, territories and ‘spoils

after the war' (Winegard and Deaner, 2010). Football, as a cultural institution, thus rides on the public's susceptibility for ingroup cohesiveness in response to enduring, self-transforming experiences and hijacks an evolved system for social cohesion; identity fusion. This line of interpretation suggests that sharing painful defeats is a more powerful agent of social bonding than celebrating victories. In this respect, cultural institutions such as spectator sports, just like painful initiations in tribal groups or the practice of hazing in fraternities and military units, may hijack our kin psychology, making fellow sufferers more like family and motivating willingness to sacrifice self for group causes.

Contrary to popular wisdom that group victories increase ingroup identification (Wann and Branscombe, 1990; Ellemers et al., 1997; Kwon et al., 2008), our findings suggest that sharing the agony of defeat acts as an even more powerful social glue. Further analyses supported our hypotheses that episodic memories for past defeat on the pitch form a durable and essential part of fans' self-concepts and that fan bonding is associated with tendencies to sacralise club-related values and engage in parochially altruistic acts towards fellow fans. How sports fans share and acknowledge group membership with thousands of other fans mirrors forms of alignment in other social groups, particularly male-dominated groups involved in ritualised collective action, such as armies, military insurgent groups, or religious collectives. We anticipate the findings established here to provide the impetus for research into cognitive-level explanations of group bonding and extreme pro-group behaviour across a diverse range of social groups.

## 4.6 Limitations

### *Losing as a proxy for shared dysphoria*

The categorisation of teams into ‘euphoria-producing’ and ‘dysphoria-producing’ is a crude distinction and constructing a binary ‘fate’ variable results in a lost opportunity for variability. First, individual games vary immensely as to how dysphoric or euphoric they are. For instance, a match may be classed euphoric due to a win but be highly dysphoric throughout if it’s a close win or if serious injuries or humiliations occur. Similarly, some supposedly ‘dysphoric’ matches may be low-arousal and either not particularly affect participants, or leave little lasting impression. However, this chapter provides evidence for general trends based on long-term exposure to defeats or victories. The use of a simple binary fate variable can therefore be useful for exploratory analyses to understand the broad picture. To counter this we also explored a continuous measure of fate, team points (as awarded by the football league), which we developed as a test of past investment in the club in Chapter 5. Moving beyond long-term fate, Chapters 6 and 7 then address the issue of short-term effects of dysphoria and mechanisms through which to fuse by gathering data before, during, and after World Cup matches.

Homogenising teams in this way is problematic for other reasons too. For instance, it could be possible that fans of successful teams had biased results in favour of low fusion due to having large, heterogeneous fan bases including fair-weather fans, compared to the smaller fan bases of less successful teams who are unlikely to be ‘basking in reflected glory’. However, this could not explain the variation we found within successful or unsuccessful groups, as these clubs are

likely to have similar sized fan bases. In future studies, we used more discrete targets (i.e. club or fellow fans) to avoid this issue.

Issues around classifying a group's 'fate' revolve around whether the group conforms more to an imagistic or doctrinal mode. The issues we encountered in determining a club's 'fate' point to a wider need for a reliable and cross-culturally replicable framework within which to explore how euphoria- or dysphoria-producing participation in crowd rituals really is. Such a framework might include level of arousal, frequency of exposure, reflection on experiences, reputation of the group etc. With the development of such a framework more meaningful comparisons could be made between the increasing numbers of groups that are being understood by modes theory.

A further issue with measuring team fate is that while 'euphoric' teams may have fewer highly fused individuals proportionately, they do not lack high fusers. What is the mechanism facilitating fusion among successful teams and why do some people fuse and not others? Why aren't all fans of unsuccessful teams highly fused? The shared dysphoria model is one possible pathway to fusion but it is not intended to be a complete or static model. On the contrary it is evolving, so future research should address why people are affected differently by dysphoric events (perhaps they perceive them to be dysphoric or shared to different degrees; perhaps they reflect less or feel less transformed (see Chapters 5-7). Alternate explanations may also prevail. For instance, perhaps there are developmental differences between those who fuse following dysphoric shared events. Other possible paths to fusion include synchrony and phenotypic matching (see 2.2.4). Another hypothesis is that fans experience differing degrees of cognitive dissonance following dysphoric outcomes. The

present chapter started to address this possibility and found overwhelming evidence for relational transformativeness and psychological kinship causing fusion. Chapter 5 extends this work by investigating both cognitive dissonance and transformativeness as paths to group loyalty.

Our measure of 'dysphoria' (emotional arousal and emotional difficulty) was imprecise and is potentially open to broad interpretation. As this was the first study of the thesis, we were primarily examining a team's fate in relation to fusion, but included a number of additional measures, which proved to be relevant and interesting for our main research objectives. However, recent work, which the present chapter contributed to, has found both mathematical and empirical support for the theory that dysphoria leads to extreme co-operation via fusion (Whitehouse et al., 2017). Dysphoria is investigated further in Chapters 5, 6, and 7.

#### *Disambiguating identification and fusion*

We used the Sport's Spectator Identification Scale (SSIS) in this study as it seemed relevant to the sample and had been validated in multiple cultural contexts (results in Appendix E5). However, this measure of identification seemed to overlap with the verbal fusion scale, as evidenced by their relatively high correlation ( $r = .66, p < .001$ ). Several of this measure's items could be argued to tap into the fusion construct (e.g. '*How strongly do you see yourself as a fan of your club?*' and '*How strongly do your friends see you as a fan of your club?*'). This is a limitation of the present study, as fusion and identification cannot be contrasted in terms of imagistic fusion and doctrinal identification using this measure.

For instance, while fusion was predicted by fate and dysphoria, so too was identification. If identification measured by the SSIS is considered a less intense form of social cohesion than fusion then this result is perhaps unsurprising. However, though identification was predicted by fate and dysphoria, it was also predicted by duration of support (unlike fusion, which is predicted by relational transformativeness). The two appear to share causal paths but diverge in terms of transformativeness and duration of support (a proxy of dissonance). This blurring between identification and fusion in measures and pathways speaks to a broader need to develop a reliable and accurate measure of doctrinal identification for use in contrasts with fusion, and also as a measure in its own right.

#### *Validity and generalizability*

First, there are issues with causality in mediation models, as mentioned at the start of the results section. Despite being limited in asserting causality, these models, grounded in theory, allow us to test hypotheses before running more costly laboratory or field experiments. Second, should we wish to generalise these results we must be wary of self-selection bias in our recruitment strategy. Though our Q-Q plots (Appendix E3) suggest that fans were well distributed and we had a large sample size, caution is needed when generalising to broader populations and, ideally, the study would be replicated using an alternate sampling methodology and in other populations.

Finally, our findings relating to self-sacrifice are limited because they are based on a self-reported, hypothetical scenario. It is possible that fused individuals felt more duty to assert their commitment to the group while completing the survey, when in reality they would not actually risk their lives for

the group. However, research in the field suggests that elevated fusion really is associated with extreme and dangerous pro-group behaviours (Whitehouse et al., 2014; Sheikh et al., 2016) and virtual reality versions of the trolley dilemma have been shown to provide similar results to pen and paper methodologies (Navarrete et al., 2012). In terms of theory, we found that the continuous self-sacrifice variable was better predicted by fusion and of course contained more variation than the binary sacrifice vs. save variable. In the present thesis, we test the relationship between fusion and inter-group conflict among Brazilian football hooligans in Chapter 8. By using hypothetical scenarios in exploratory studies, i.e. the trolley scenario in this chapter, we gain insight as to whether fans are willing to endorse extreme action, laying the path for future work investigating pro-group action.

#### *Evaluating the limitations of Chapter 4*

In sum, the results of this study are in support of the dysphoric pathway to fusion. However, describing a club as generally euphoria or dysphoria producing does not point to the precise experiences likely to trigger reflection and self-transformativeness. To address this, self-transformativeness is explored in Chapters 5-7. We included a measure of identification and found that it produced similar results to fusion (Appendix E5). Rather than dis-crediting the distinction between the two theories that has been described both theoretically (Swann et al., 2012; Whitehouse and Lanman, 2014) and experimentally (Gómez et al., 2011; Bortolini et al., Under Review), this rather points to a need for a more precise measure of identification. The following chapters also include single-item measures of identification (in appendices) to further unpick this distinction.

The present chapter used a hypothetical self-reported measure of self-sacrifice so may not reflect actual behaviours. We extend this by including reports of past violence (Chapter 8) and endorsements of fighting and dying for one's group (Chapters 6, 7, and 8). In terms of sampling, although we achieved a large  $N$  in this initial study, there's a possibility that the results suffered from self-selection bias. We extend beyond online survey methods by conducting a field study in Chapter 7.

## **Conclusions**

Not only do football fans fuse with their club and fellow fans, they also report recognising one another as kin and sharing familial ties. This is of particular interest due to the scale of these organisations, including tens if not hundreds of thousands of other group members. The results reported in this chapter support the hypothesis that fusion has its origins in dysphoric experiences and relational transformativeness, i.e. being transformed by the people one first experienced a passion for the group with. In addition to testing causes of fusion, we also tested consequences of fusion. Fusion predicted sacred values and self-sacrifice, effects mediated by psychological kinship. In addition, fusion mediated the relationship between sacred values and self-sacrifice.

Our findings suggest that the strength of bonds reported by highly fused football fans is powerful enough to generate the endorsement of extreme pro-group behaviours, even sacrificing one's life for other fans. The behavioural consequences of fusion – be it extreme pro-group behaviours or hostility toward outgroups (examined in Chapters 6 and 8) – have the potential to be described as some of the most extreme and dangerous social behaviours we know (Whitehouse et al., 2013; Buhrmester and Swann, 2015). When viewed in this

way, a more thorough understanding of the causes and consequences of identity fusion could conceivably impact a great many areas, perhaps most importantly conflict resolution and policies relating to inter-group conflict. How does responding to a highly fused group with force or violence 'transform' them and what consequences does this have for existing levels of fusion? The next chapter tests the role 'self-transformativeness' plays in the emergence of fusion and group loyalty. We also test an alternative, dissonance hypothesis to explain group loyalty.

## Chapter 5

### Self-transformativeness, not cognitive dissonance, mediates the relationship between fusion and group loyalty

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Ingroup loyalty can be described as faithfully sticking with one's ingroup through thick and thin. Loyalty courts reciprocal commitment from fellow group members, making group behaviour more predictable and stable (Boyd and Richerson, 2005; Bulbulia and Sosis, 2011). To reduce the possibility of free riders, signs of group commitment have culturally evolved (Sosis et al., 2007; Bulbulia and Sosis, 2011; Rossano, 2012; Cohen and Haun, 2013; Moffett, 2013). Indeed, declarations of loyalty to one's group are common cross-culturally. For instance, through prayer, hymn or bumper sticker, religious believers around the world express their unwavering commitment to serve their God, Prophet, or other supernatural agent. In sport too, fans travel long distances, devote large amounts of money and time to following and participating in their teams' events, and often display visual symbols of their allegiance to their team; even lifelong and painful tattoos are not uncommon.

In terms of public policy, by identifying the mechanisms through which group loyalty develops, we are better placed to harness it for practical and positive outcomes, e.g. acts of charity or the reduction of inter-group violence. Two traditional accounts for group loyalty come from cognitive dissonance theory (Aronson and Mills, 1959; Gerard and Mathewson, 1966) and social identification theory (SIT) (Ellemers et al., 1997; Brewer, 1999; Zdaniuk and Levine, 2001; Van Vugt and Hart, 2004). Identity fusion is a newer theory of group cohesion that offers an alternate causal path to group loyalty from previous theories (Swann et al., 2009; Buhrmester et al., 2012; Whitehouse and

Lanman, 2014; Buhrmester and Swann, 2015). In the present chapter, we assess the cognitive underpinnings of sustained group loyalty by testing these three theories in a sample of British football fans.

Among football supporters, lifelong loyalty to one club is not uncommon (Stone, 2007; de Groot and Robinson, 2008; Giulianotti, 2012; Pearson, 2012). Fans of successful teams that regularly win games and championships, and avoid relegations, are vicariously rewarded for their commitment. On the other hand, fans of mediocre or unsuccessful teams may never win cups and will rarely experience euphoria-inducing matches. Rather, they are likely to suffer humiliating defeats or even relegation. Sticking with one's team through thick and thin therefore has clear advantages when supporting a high-performing club, but how can we explain sustained support for unsuccessful clubs?

Although it may seem logical to switch teams if prolonged and substantial defeats engender trauma, a long history of theorizing about cognitive dissonance as the dominant explanation for group loyalty explains these heavy costs of membership as a need to reduce dissonance (Aronson and Mills, 1959; Festinger, 1962; Gerard and Mathewson, 1966). Cognitive dissonance describes the mental discomfort an individual encounters when holding two conflicting beliefs or attitudes (Cooper, 2007). Similarly, dissonance can occur when an event is inconsistent with the individual's expectations and they hold a negative attitude about that event. The individual may then engage in dissonance reduction strategies to reduce this discomfort (see the next section) (Festinger and Aronson, 1960). After a series of humiliating and unpleasant defeats, individuals who have chosen to support that team, may therefore attempt to

reduce their dissonance by finding other explanations for their behaviour, aside from victory, e.g. their loyalty to the group.

We aimed to test whether fusion might constitute an independent path to loyalty from dissonance. Ideally, to quantify dissonance, levels of arousal after the event should be recorded, i.e. how dysphoric the event was and how consistent this experience was with the individual's view of their group (Cooper, 2007). In the present study we expanded upon the three imprecise measures used in Chapter 4 (who a fan first experienced the game with as a proxy for voluntary engagement; past duration of support; and testing sacred values' role as a mediator in the fate and fusion relationship). In the present chapter we used a proxy of cognitive dissonance: duration of supporting one's club x the club's success in the last season. If a fan has invested long-term support and investment in their team, yet experience a negative outcome then they are likely to experience dissonance between their existing values (favouring a team over other teams) and the event (team performs poorly). Section 5.1.1 accounts for past measures of dissonance and investment used by other studies from the SIT literature.

Understandings of group loyalty have also been improved by SIT. SIT theorists propose that highly identified individuals experience a non-abandonment norm (Zdaniuk and Levine, 2001) and their perceived homogeneity of the ingroup corresponds to a decrease in desire for personal mobility (Ellemers et al., 1997) due to the tension between the personal and social selves (Turner et al., 1987). A number of alternative paths to social bonding have been proposed, including synchrony (Wiltermuth and Heath, 2009; Davis et al., 2015; Tunçgenç and Cohen, 2016) and euphoria resulting

from synchrony (Cohen et al., 2010b; Tarr et al., 2015; Tarr et al., 2016). Fusion offers an alternative, but complementary explanation to these paths. We propose that people come to be fused and to experience unerring group loyalty as a result of being transformed by shared and personally defining dysphoric events (Whitehouse and Lanman, 2014). In this chapter we explore the paths to lifelong club loyalty in football fans by testing duration of support and team fate, identification, fusion, and a sense of 'self-transformativeness'.

## **5.1 Mechanisms that trigger lifelong loyalty**

### **5.1.1 Identification, identity fusion and self-transformativeness**

The SIT perspective offers one account of group loyalty. Social identity refers to a person's sense of who they are in terms of group membership (Tajfel and Turner, 1979a). If an individual is highly identified they will primarily see themselves as a group member, while low identifiers will see themselves as a unique individual. When a person's group membership is active and their sense of self revolves around their group, we would intuitively expect their group loyalty to be relatively high. Indeed, when given the option to move from a low status to a high status group, high identifiers choose to stay with their group while low identifiers do not, regardless of the presence of an identity threat (Ellemers et al., 1997).

However, strongly fused persons, emboldened by a sense of personal agency, invulnerability, and sense of psychological kinship with group members, are willing to put their lives at risk to save ingroup members (Swann et al., 2010a; Swann et al., 2010b; Swann et al., 2014a; Swann et al., 2014b) and to provide financial and socio-emotional support to needy ingroup members

(Swann et al., 2010b; Buhrmester et al., 2015). Strongly fused group members in longitudinal studies also tend to remain strongly fused over time (Swann et al., 2012; Fredman et al., 2015). Together, this body of evidence suggests that strongly fused persons may exhibit extremely high levels of group loyalty, beyond that generated by group identification.

For this chapter, we explore one particularly important form of ingroup loyalty – lifelong loyalty. Lifelong loyalty refers to a willingness to stick with one’s group in perpetuity, remaining faithful to the group through good times and bad and therefore forgoing opportunities to abandon the group in favour of more attractive ones (Ellemers et al., 1997; Zdaniuk and Levine, 2001; Van Vugt and Hart, 2004). In previous studies, loyalty has been measured according to willingness to stick with one’s group despite options to switch to a more appealing scenario (Ellemers et al., 1997; Zdaniuk and Levine, 2001). For instance, in Ellemers et al.’s study, participants were asked to perform a problem-solving task in groups and were then told that they had performed poorly compared to other groups, which induced a low-group status. Highly identified individuals tended to be more committed to their group when given the opportunity to move to the more high status group. Van Vugt and Hart (2004) went on to add personal costs of staying with the group to Ellemers et al.’s design. In addition to an attractive exit-option (i.e. a higher status group), participants in Van Vugt & Hart’s study lost personal funds (£2) by choosing to remain in their group, yet high identifiers chose precisely this option, despite the personal costs involved.

To replicate and extend the association between identification and loyalty in a more ecologically valid domain, we sought a measure of group loyalty that

was relevant to football fandom: choosing to remain with one's club despite poor club performance. In this context, fans of poorer performing teams theoretically have the choice to move to a higher status group and the personal costs of remaining with the low-status group include disappointment, ridicule, and low affect (Hirt et al., 1992; Robson, 2000; Leach and Spears, 2009). Thus, we first sought to test whether those most strongly identified with the ingroup report the highest levels of lifelong club loyalty.

Fusion is likely to be an especially strong predictor of this form of loyalty because for fused individuals, to be unfaithful to the group would be to betray not only the group itself (associated with the sanctity of familial ties) but also the essence of their personal self (Swann et al., 2014a; Whitehouse et al., 2014; Buhrmester et al., 2015). For a strongly fused person, to renounce one's group membership would be tantamount to total rejection of one's present and past self. This chapter thus expands on previous studies and tests whether fusion is associated with lifelong club loyalty, while controlling for group identification and past investment.

### *Self-transformativeness as a path to fusion*

If fusion engenders lifelong group loyalty, what triggers fusion? This thesis tests a self-transformativeness hypothesis that lies in a framework recently developed by Whitehouse and Lanman (2014). This framework proposes that particularly intense life events hold the power to transform the personal autobiographical self (Whitehouse, 2005): a sense of 'self-transformativeness' (Newson et al., 2016). Self-transformativeness describes the transformation an individual experiences following intense life events; their sense of self becomes re-shaped by the event, such that there is a sense of their personal identity being

altered (Singer and Blagov, 2004). In relation to fusion, this refers to the individual's relationship to their sense of self and their group. To become 'transformed' in this sense, means that the boundary between 'self' and 'group' has become more porous. Previously this stage of the dysphoric pathway has been referred to as 'self-shapingness' (Newson et al., 2016).

When profound life events are shared with ingroup members, through a process of reflection over time, people may in turn perceive that these events were significantly identity shaping, both personally and socially. As a result, one's personal and social identities become more closely aligned, or fused (Gómez et al., 2011; Whitehouse and Lanman, 2014). Self-transformativeness is related to the literature surrounding self-defining memories, which are identified as being vivid, affectively intense, repetitively recalled, linked to other similar memories, and focused on an enduring aspect of the self (Conway and Pleydell-Pearce, 2000; Singer and Blagov, 2004).

Self-transformativeness may be considered a looser version of the self-defining memories construct and focuses on the result rather than the process (i.e. the resultant transformativeness as opposed to the construct of the self-defining memories). It thus has the potential to encapsulate a broader array of transformative events, memories, or experiences and is a useful measure for exploratory work into the factors underlying fusion and its associated outcomes. Though SIT literature indicates that individuals may CORF (cut off reflected failure) (Snyder et al., 1986; Wann and Branscombe, 1990) following significant defeats, some football fans come to define themselves by the club experiences they have encountered, as evidenced in the ethnographies on football fans highlighted in 3.2 (Giulianotti, 1995; Armstrong and Giulianotti, 1997; Pearson,

2012). Several recent studies have found broad support for this account, however, none have specifically examined the links between fusion, and perceptions of how group events have been personally self-transforming (Xygalatas et al., 2013; Buhrmester et al., 2015; Jong et al., 2015). This chapter thus assesses the extent to which sharing self-transforming experiences with others leads to fusion.

Another key prediction originating from Whitehouse and Lanman is that highly dysphoric group experiences can affect fusion in ways equal to and even beyond euphoric group experiences (Atkinson and Whitehouse, 2011; Whitehouse and Lanman, 2014). As with self-defining memories, self-transformativeness brings together the importance of both positive and negative past events (Newson et al., 2016). Both have the power to create ‘flashbulb’ memories (Scott and Ponsoda, 1996; Conway and Pleydell-Pearce, 2000). Nonetheless, dysphoric self-transformativeness is our variable of interest as it is only dysphoric events that are likely to lead to negative arousal and dissonance, which is the alternate path to group loyalty that we test in this study. Self-transformativeness following euphoric events may also lead to fusion, but is less likely to be ‘imagistic’, in line with Whitehouse’s modes theory (Whitehouse, 2004; Atkinson and Whitehouse, 2011; Whitehouse and Lanman, 2014).

While the power of euphoric events to shape individuals (Cohen and Hoberman, 1983; Bohanek et al., 2005) and increase group cohesion (Bohanek et al., 2005) is well documented, little research has assessed the effects of dysphoric experiences on perceptions of self-transformativeness and group bonding, and findings have been mixed. For instance, Turner et al. (1984) found increased cohesion following failure or defeat in cooperative tasks and

intergroup competitions, but only under conditions of high choice about doing the task or high commitment to the group respectively. This effect was revealed using a minimal groups paradigm run with undergraduate participants and 13-14 year old schoolgirls, so its generalisability with longstanding groups, such as football clubs, is unknown. In other work, two meta-analyses have identified connections between positive team performance and group cohesion (Evans and Dion, 1991; Mullen and Copper, 1994), but interpreting the strength and causal direction of these connections proved difficult because of conceptual and methodological heterogeneity across the many studies that were analysed (Fullagar and Egleston, 2008). Given this state of affairs, the present study surveyed participants' perceptions of feeling self-transformed by both positive and negative group events.

#### *Testing a dissonance explanation for lifelong loyalty*

In addition to testing for affirmative support for hypotheses derived from Whitehouse and Lanman (2014), we also sought to examine a potentially more parsimonious alternative explanation for the development of fusion and ingroup loyalty: cognitive dissonance (Festinger, 1962; Van Vugt and Hart, 2004). Group members who have invested significant time, energy, and resources into their group may be most likely to experience dissonance when their past action comes into conflict with a negatively arousing event. In the case of football fans, a conflict occurs when a fan holds values about their club (e.g. allegiance, adoration etc.) but the club performs badly, which results in negative affect.

Individuals experiencing dissonance make efforts to resolve it (Festinger, 1957). According to Festinger (1957), dissonance resolution may be achieved via: a change in behaviour or cognition; acquiring new information to overcome

the dissonant value; or reducing the importance of the cognition, e.g. denial. In football, these strategies are all common. For instance, and in line with Festinger's outline, a fan of an unsuccessful team may resolve the dissonance they experience by: no longer committing to the club, e.g. CORFing; justifying their support by saying that the loss wasn't *that* bad or calculating how many goals are required in the next game to overcome the present obstacle; or reducing the import of the game by emphasising their relationship to other fans, e.g. '*we've still got each other*'; '*we still had a laugh*'.

In relation to the final resolution strategy listed (emphasising group ties) Van Vugt and Hart's study (2004) suggested that dissonance theory and social identity form two independent routes to group loyalty. Using relatively minimal groups (university affiliation) in a laboratory setting, high identifiers' group loyalty was not explained by a justification of their past investments. Rather, past investment affected group loyalty independently of identification. Turner et al.'s laboratory study (1984) described above also found evidence for an independent dissonance explanation of increased cohesion following negative events.

The present chapter tests whether cognitive dissonance results in ingroup loyalty in a cohort of self-identifying group members by returning to Ellemers et al.'s (1997) original anecdote on the loyalty of sports fans. Namely, we examined whether group loyalty, here defined as sticking with one's club, can be explained by the dissonance long-term fans experience when their team performs badly. The dissonance account of loyalty only works if fans are (a) fused to the club target (as opposed to other fans, in which case team performance is secondary), and (b) the team performs poorly. We thus included

measures of both club fusion and fan fusion to check (a) and included a measure of 'team fate', i.e. points accrued in the previous football season, in relation to the individual's past time invested in their club in years. Although dissonance and fusion explanations are not necessarily oppositional, we propose that they are distinct pathways to loyalty. Fusion theory has the potential to add to current explanations of group loyalty, as laid out by the theories of cognitive dissonance and identification detailed above. What is new to the literature is that we would predict the path to fusion to be via transformativeness and psychological kinship.

## **5.2 Hypotheses**

H5.1: While identification, past investment, and fusion all predict loyalty when individual relationships are examined, only fusion and past investment will predict loyalty when the variables are considered together.

H5.2: The perceptions of self-transformative events affect loyalty via fusion, rather than via past investments. Self-transformativeness may result from either euphoric or dysphoric events.

## **5.3 Methods**

For this study, we focused on fans of the UK's top two football leagues (the Premiership and Championship) and two non-league teams (Table 5.1). We released the study in November 2015. Ethical approval was obtained from the School of Anthropology and Museum of Ethnography Research Ethics Committee (SAME REC) in accordance with the procedures laid down by the University for ethical approval of all research involving human participants. A short online

questionnaire ( $N=140$ ) was advertised to a diverse cross-section of football fans through social media (i.e. Facebook, Twitter), online forums (i.e. specialist club sites), and fan blogs (by requesting that the blogger advertise the study), for which participants could win one of three £100 prizes. To encourage participants to give their attention to the whole survey, we informed them of the estimated time to complete the survey. We expected that most participants would prefer to complete a brief survey, thus we chose when possible to use abbreviated measures.

Table 5.1

*Distribution of participants by club (alphabetical) supported and points at the end of the 2014-15 season*

<b>Club</b>	<b>Freq.</b>	<b>%</b>	<b>Club</b>	<b>Freq.</b>	<b>%</b>
Arsenal	67	45.9	Leeds United	2	1.4
Aston Villa	1	0.7	Leicester	1	0.7
Brentford	1	0.7	Liverpool	11	7.5
Brighton & Hove Albion	2	1.4	Man City	1	0.7
Bristol City	1	0.7	Man United	11	7.5
Chelsea	6	4.1	Newcastle	2	1.4
Clapton FC	7	4.8	Norwich	2	1.4
Crystal Palace	2	1.4	Southampton	2	1.4
Everton	2	1.4	Spurs	8	5.5
Hull City	11	7.5	Sunderland	2	1.4
Ipswich Town	1	0.7	West Ham	1	0.7

Of the 146 participants ( $M_{age} = 37.14$ ,  $SD = 13.09$ , range = 18-76), 80.82% were male (15.07% female), 9.6% left education at or before the age of 16, 23.3% had

college education, 41.1% had undergraduate education, and 22.6% had postgraduate education. 94.3% of the sample spoke English as a first language. Table 5.1 shows the composition of fans in terms of the clubs they support. To define participants' exposure to dysphoria we created a 'team fate' variable, which reflected the points each team had achieved in its own league for the previous season (2014-15), given number of games that team had played<sup>35</sup>. We chose this measure as opposed to calculating scores across the last ten years as in Chapter 4 because the teams in this study were from three different leagues (including two low-ranking non-division teams) and it was unrealistic to mix scores across leagues.

Arsenal fans (one of the highest ranked Premiership clubs) constituted 45.9% of participants due to a popular Arsenal blogger responding to our request and publishing the study on his blog and Twitter feed (Table 5.1). We were concerned that this disproportionate number of Arsenal fans might skew results so we re-ran each analysis including a binary Arsenal (1) /non-Arsenal (2) fan variable (see Appendix F1). The results held, though we found that Arsenal fans appeared to behave differently from other fans in general, and even from other euphoria-producing teams. Specifically, self-transformativeness did not predict fusion in the same way for Arsenal fans as it did for non-Arsenal fans. A discussion on this subject is included in Appendix F1.

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<sup>35</sup> The points system is managed by the FA and represents the value of wins and the relatively low corresponding value of individual losses. As such, our measure of 'fate' is a fair proxy of a team's success at the start of the 2015 season when the study took place. We used [www.statto.com](http://www.statto.com) to collect team data. Also note that data was collected before Leicester won the Premiership in 2016.

## *Measures*

Measures were presented in the following order: participants were first asked to select which team they supported. We then asked if they supported any other teams and which team they supported more. The following questions pertained to the team they listed as supporting the most.

Next we asked participants for their age and years they had supported their club. We created a composite 'investment' score by multiplying years of support by team fate (reverse scored percentage league points for the previous season). Thus fans that had supported poorly performing teams for the longest attained the highest scores for the investment variable. These fans would presumably experience the greatest dissonance, as their years of investment do not equate to group success. This composite variable also considers the fact that younger participants may only have experienced recent losses.

Identity fusion was assessed using the 7-point verbal scale (Gómez et al., 2011) (see Appendix B for items) in reference to the individual's preferred club ( $\alpha=.89$ ). We also included a measure of fusion to fans (*fans of my team*) ( $\alpha=.92$ ), as we would predict that only fusion to club would predict loyalty to one's club. Identification was assessed using the 7-point single item measure (Postmes et al., 2013): '*I identify with [my club]*' and '*I identify with fans of my team*'

Ingroup loyalty was assessed via six questions using a 7-point response scale. Items were based on definitions of ingroup loyalty and survey questions from Van Vugt & Hart (2004). The scale was internally consistent ( $\alpha = .82$ ) and loaded on to one factor (see section 5.4.1) and included the following items with reference to the individual's preferred team. The questions were reversed scored so that high scores reflected high loyalty.

1) *How likely is it that you will remain a fan of [club] for the rest of your life?*

*(Extremely likely vs. Extremely unlikely)*

2) *'Even though I may not want to now, I will probably end up switching to a different team'*

*(Extremely unlikely vs. Extremely likely)*

3) *'I will never stop supporting [club]' vs. 'I won't support [club] for long'*

4) *'Nothing could stop me being a fan of [club]' vs. 'Nothing could keep me a fan of [club] forever'*

5) *'When [club] has just lost, I '...am as strong a fan as ever' vs. '...come close to switching teams'*

6) *'I could never stop being a fan of my team' vs. 'I don't mind which team I support'*

Self-transformative club events were assessed via two questions using a 7-point response scale (*'Not at all vs. Extremely'*). One question asked about euphoric events: *'To what extent have your team's wins shaped you as a person?'*. The second question asked about dysphoric events: *'To what extent have your team's losses shaped you as a person?'*. Although this thesis is primarily concerned with dysphoric experiences, the inclusion of euphoric self-transformative experiences was deemed necessary because while euphoric self-transformative experiences may predict loyalty, they would not be expected to produce dissonance. Each of the transformativeness measures was preceded by a recall question on a 7-point scale, to prepare participants for the self-transformative question: *'To what extent do you recall painful losses your team has endured / euphoric victories your team has achieved?'*

Finally, in preparation for the two World Cup chapters (6 and 7) we asked three exploratory questions about national team. First we asked two questions as to whether one can switch national teams on a 7-point scale (*'no, definitely not'* vs. *'yes, definitely'*; *'you can only support your own national team'* vs. *'you can support any national team'*). We then asked who they supported more, their club or national team.

## **5.4 Results**

### **5.4.1 Factor analysis for the group loyalty measure**

First, we tested for the factorability of a correlation. All seven items correlated at least  $r = .3$ ,  $p < .001$  with one another, suggesting reasonable factorability (Table 5.2). The Kaiser-Meyer-Olkin measure of sampling adequacy was .85, above the commonly recommended .6 value. Bartlett's test of sphericity was also significant ( $\chi^2 (15) = 331.22$ ,  $p < .001$ ). The diagonals of the anti-image correlation matrix were all over 1.3. Finally, the communalities were all above .4 (extraction, in order presented: .47; .69; .81; .42; .52; .46). Examination of the scree plot suggested one factor comprised the slope and the remaining factors comprised the scree. Based on these results, we proceeded with a principal components analysis as we sought to identify if there were one or multiple factors in the measure. A single component was suggested by the analysis. Initial eigenvalues indicated that the first item factor explained 56.20% of the variance and the other five factors explained 3.72 – 13.02% of the variance. The single factor analysis was in support of theory that group loyalty would be inclusive of the 6 items.

Table 5.2

*Correlations for group loyalty items*

Variables	1	2	3	4	5	6
1. How likely is it that you will remain a fan of [club] for the rest of your life?	-					
2. 'Even though I may not want to now, I will probably end up switching to a different team'	.44	-				
3. 'I will never stop supporting [club]'	.57	.74	-			
4. 'Nothing could stop me being a fan of [club]'	.31	.46	.51	-		
5. 'When [club] has just lost, I... '...am as strong a fan as ever'	.33	.55	.62	.37	-	
6. 'I could never stop being a fan of my team'	.45	.44	.53	.33	.34	-

*Note:*  $p < .001$  for all correlations

#### 5.4.2 Descriptive statistics

Descriptives and correlations for key variables are reported in Table 5.3 and a comparison between Arsenal and non-Arsenal fans shows that the two groups were broadly similar in descriptive terms (Appendix F1). Skew and kurtosis were less than 2 and greater than -2 in all cases ( $SE = .20$  to  $.41$ ), except for loyalty (skew = -1.87,  $SE = .20$ ; kurtosis = 3.22,  $SE = .41$ ) and past investment (skew = 1.70,  $SE = .20$ ; kurtosis = 3.79,  $SE = .40$ ). However, as these variables were only used for OLS regressions, additional non-parametric analyses were not deemed necessary.

Table 5.3

*Descriptive statistics and correlations for key variables*

<b>Variables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. Dys. self-shap.	3.49 (1.80)						
2. Eu. self-shap.	.69 (<.001)*	3.84 (1.85)					
3. Ident.	.08 (.344)	.16 (.052)	5.17 (1.52)				
4. Investment	.09 (.316)	.13 (.114)	.11 (.179)	10.40 (7.21)			
5. Fusion (club)	.28 (.001)*	.46 (<.001)*	.57 (<.001)*	-.01 (.947)	3.88 (1.38)		
6. Fusion (fans)	.14 (.095)	.31 (<.001)*	.47 (<.001)*	-.02 (.770)	.68 (<.001)*	3.51 (1.39)	
7. Loyalty	.32 (<.001)*	.31 (<.001)*	.16 (.055)	.17 (.048)*	.32 (<.001)*	.09 (.302)	6.48 (.73)

*Note:* Means and SD (in parentheses) on the diagonal, Pearson's  $r$ 's and  $p$ -values (in parentheses) below the diagonal.

\* $p < .05$

### *Demographic variables*

We found relationships between education, age and gender and some of the outcome variables (Table 5.4). Dysphoric and euphoric self-transformativeness, and loyalty were highest among fans who reported lower levels of education. As might be expected, older people tended to have invested more in the club (in terms of years). Finally, females ( $N = 22$ ) scored higher for fusion to club ( $M = 4.53, SD = 1.41$ ) than males ( $M = 3.81, SD = 1.34$ ),  $t = 2.27, p = .025$ , Cohen's  $d = .52$ . They also scored higher for identification ( $M = 5.91, SD = 1.07$ ) than males ( $M = 5.10, SD = 1.49$ ),  $t = 2.43, p = .016$ , Cohen's  $d = .62$ . We had no *a priori* hypotheses about these relationships in this exploratory study, nor were they central variables of interest to this particular study, but we include analyses controlling for these variables in Appendix F3. These additional analyses suggest that the demographic measures did not influence our results.

Table 5.4

#### *Correlations between key variables and demographic variables*

<b>Variables</b>	<b>Education</b>	<b>Age</b>	<b>Gender</b>
Dysphoric self-shap.	-.18 (.032)*	.02 (.776)	.01 (.874)
Euphoric self-shap.	-.16 (.060)*	.01 (.925)	-.003 (.973)
Identification	-.01 (.939)	.05 (.534)	-.25 (.003)*
Investment	.002 (.980)	.64 (<.001)*	.07 (.422)
Fusion (club)	-.16 (.067)	-.01 (.892)	.23 (.007)*
Fusion (fans)	-.12 (.144)	.12 (.165)	-.11 (.188)
Loyalty	-.26 (.002)*	-.02 (.850)	-.02 (.829)

*Note:* Means and SD (in parentheses) on the diagonal, Pearson's  $r$ 's and  $p$ -values (in parentheses) below the diagonal.

\* $p < .05$

### 5.3.3 Hypothesis testing

#### **H1: Identification, dysphoria, and fusion predict loyalty, but only the effects of investment and fusion hold in a simultaneous regression**

*Analysis:* To test which variables predicted lifelong loyalty we ran a series of linear regressions with loyalty as the dependent variable and identification entered in block 1, investment entered in block 2, and fusion to club entered in block 3. To contrast the predictive power of different fusion targets in predicting loyalty to a symbolic group (club), we re-ran the block 3 regression but replaced club fusion with fan fusion.

*Results:* Overall, our hypothesis was supported. Our model suggests that loyalty may be a result of past investment (dissonance), but a unique path to loyalty not explained by investment is fusion. Consistent with Van Vugt and Hart (2004), the regression analyses indicated that identification alone marginally predicted loyalty ( $R^2 = .03$ ,  $F(139, 1) = 3.75$ ,  $p = .055$ ) (Table 5.5). With investment added to the model in block 2, both variables marginally predicted loyalty independently of one another ( $R^2 = .05$ ,  $F(138, 2) = 3.54$ ,  $p = .032$ ,  $\Delta R^2 = .02$ ). However, with fusion added to the model in block 3, the effect of identification was no longer statistically significant, while the effect of fusion on loyalty was statistically significant ( $R^2 = .14$ ,  $F(137, 3) = 7.13$ ,  $p < .001$ ,  $\Delta R^2 = .09$ ). Investment also predicted loyalty, but not as strongly as fusion. VIF values were all below 1.5.

Table 5.5

*Linear regression with identification, past investment, and fusion entered as variables to predict group loyalty*

<b>Variable</b>	<b><i>B</i></b>	<b><i>SE B</i></b>	<b><math>\beta</math></b>	<b><i>p</i></b>
<b>Model 1</b>				
Identification	.08	.04	.16	.055
<b>Model 2</b>				
Identification	.07	.04	.15	.083
Investment	.02	.01	.15	.073
<b>Model 3</b>				
Identification	-.03	.05	-.06	.564
Investment	.02	.01	.18	.030*
Fusion (club)	.19	.05	.36	<.001*

\* $p < .05$

We then re-ran the final regression, including fan instead of club fusion and found that it did not predict loyalty,  $R^2 = .05$ ,  $F(137, 3) = 2.39$ ,  $p = .072$ ,  $\Delta R^2 = .001$ . VIF values were below 1.3 (Table 5.6).

Table 5.6

*Linear regression with identification, past investment, and fusion to fans entered as variables to predict group loyalty*

<b>Variable</b>	<b><i>B</i></b>	<b><i>SE B</i></b>	<b><math>\beta</math></b>	<b><i>p</i></b>
<b>Identification</b>	.06	.05	.13	.168
<b>Investment</b>	.02	.01	.15	.070
<b>Fusion (fans)</b>	.02	.05	.03	.720

It is also worth noting that the reverse scored team points (percentage of games played) variable, which is an indicator of dysphoria, predicted fusion to fans, such that the fewer points the team had at the end of the 2014-15 season and the longer they had been a supporter, the more fused they were,  $R^2 = .02$ ,  $F(144, 1) = 2.97$ ,  $B = 1.15$ ,  $p = .087$ . The result is probably weaker than the results in Chapter 4 because of the inclusion of mid-league teams. The RS team points variable did not, however, predict fusion to club,  $R^2 = .001$ ,  $F(144, 1) = .14$ ,  $B = -.25$ ,  $p = .712$ . Nor did the investment variable (indicative of dissonance) predict either fusion to fans ( $B = -.01$ ,  $p = .770$ ) or club ( $B = -.001$ ,  $p = .947$ ).

## **H2: The path from self-transformative experiences to loyalty is via fusion**

*Analysis:* To follow up on the paths to loyalty established in Hypothesis 1 (fusion and investment), we included a new variable: self-transformativeness. Fusion was treated as an independent variable in Hypothesis 1, but for Hypotheses 2a and 2b, fusion becomes a mediator. This is because although fusion is still predicted to have an effect on the dependent variable (group loyalty), we also expect it to change in accordance with our new independent variable (self-transformativeness). In accordance with the theory outlined in section 5.1.1, the perception that an event has transformed a person precedes fusion and fusion is thought to engender lifelong loyalty. This makes the shift to a mediation analysis appropriate. Simple mediation analyses were conducted for both euphoric and dysphoric self-transformativeness using ordinary least squares path analysis in Hayes's PROCESS macro (Model 4) for SPSS (Hayes, 2013). Bias-corrected bootstrap analyses based on 5,000 bootstrap samples were run. In the model the outcome was loyalty, fusion the mediator, eu-/dysphoric self-

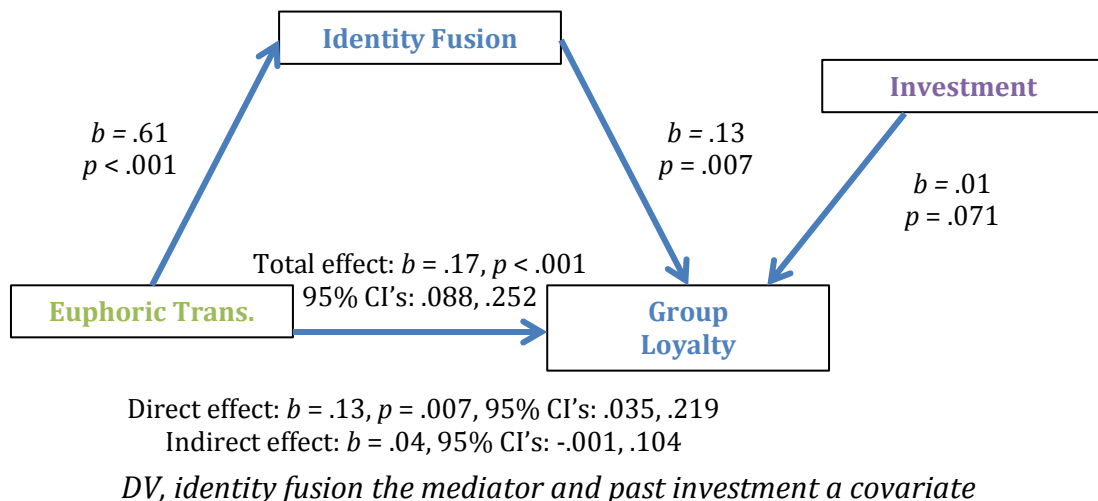
transformativeness the predictor, and past investment a covariate predicting loyalty. We re-ran each mediation analysis to check whether investment might mediate the relationship between transformativeness and loyalty. We then re-ran the initial models, first adding identification as a covariate, then replacing fusion as the mediator for identification.

*H2a Euphoric self-transformativeness predicts fusion*

*Results:* In the first set of analyses, we found evidence to support the hypothesis that the relationship between self-transformativeness experiences and group loyalty is marginally mediated by fusion, controlling for investment (Fig 5.1) (Sobel  $z = 1.89, p = .059$ ).

Fig 5.1

*Mediation analysis with euphoric self-transformativeness the IV, group loyalty the*



There was not evidence to suggest that the relationship between self-transformativeness and loyalty was mediated by investment, controlling for

fusion (Fig. 5.2) (Sobel  $z = 1.28$   $p = .202$ ), as the  $a$  path ( $b = .61$ ,  $p = .068$ ) was not supported. This suggests that the self-transformativeness via fusion pathway is separate from the past investment pathway, even if it is a weak mediation for euphoric self-transformativeness. We then re-ran the first model controlling for identification (entered as a covariate) and the results remained relatively robust (Sobel  $z = 1.83$ ,  $p = .068$ ). We also re-ran the model replacing fusion with identification as the mediator and found the model was not supported (Sobel  $z = 1.54$ ,  $p = .123$ ).

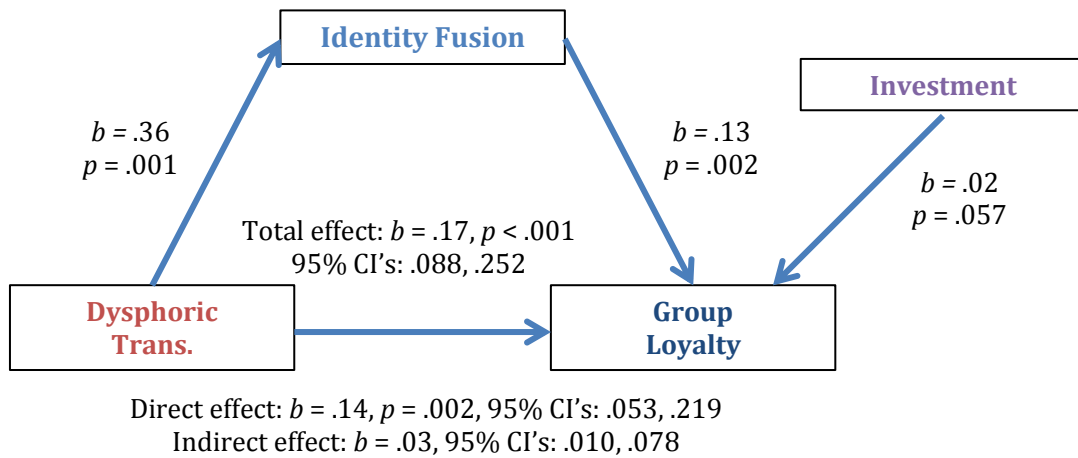
#### *H2b Dysphoric self-transformativeness also predicts fusion*

*Results:* Next, we tested the role of dysphoric self-transformativeness and found that the hypothesis was supported (Fig 5.2). This mediation model was more powerful than the euphoric model. The confidence intervals for the indirect effects did not cross zero (Sobel  $z = 2.15$ ,  $p = .031$ ). There was evidence of a direct effect of dysphoric self-transformativeness on loyalty, independent of past investment and fusion.

Fig 5.2

Mediation analysis with dysphoric self-transformativeness the IV, group loyalty the

DV, identity fusion the mediator and past investment a covariate



There was not evidence to suggest that the relationship between self-transformativeness and loyalty was mediated by investment, controlling for fusion (Sobel  $z = .96, p = .338$ ) as the  $a$  path was not supported ( $b = .02, p = .285$ ). This suggests that the self-transformativeness via fusion pathway is separate from the past investment pathway. We then re-ran the first model controlling for identification (entered as a covariate) and the results remained robust (Sobel  $z = 2.16, p = .031$ ). We also re-ran the model replacing fusion with identification as the mediator and found the model was not supported (Sobel  $z = .80, p = .425$ ).

In sum, the results of Hypothesis 2 suggest that fusion mediates the relationship between self-transformativeness and group loyalty, controlling for the individual's past investment in the group, i.e. years of support and the team's success rate (fate). The mediation model for dysphoric self-transformativeness was stronger than that of euphoric self-transformativeness, though both would be best described as partial mediation. There was not evidence to suggest that past investment mediates the relationship between self-transformativeness and

loyalty.

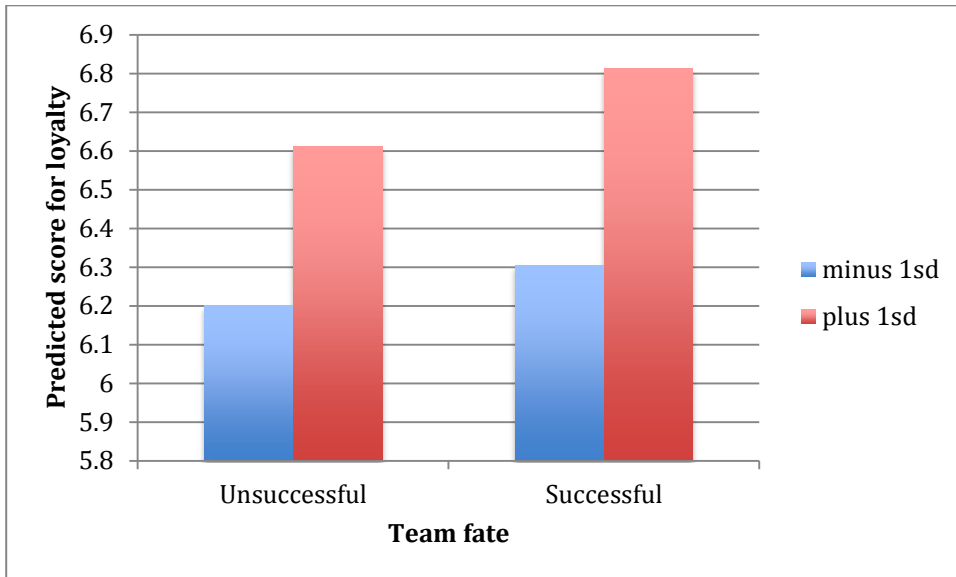
#### 5.3.4 Additional Exploratory Analyses

To further explore dysphoria's role in group loyalty, we explored the 'Team Fate' variable in more depth. Specifically, we investigated whether a team's fate interacted with the self-transformativeness – fusion – loyalty pathway by testing for moderated mediation. These data suggest that while both euphoric and dysphoric self-transformativeness experiences are important for group loyalty and fusion, it is dysphoric self-transformativeness that is particularly important for fusing fans of unsuccessful teams.

Using Model 1 in PROCESS, we found that the *c*-path criteria were not satisfied, as there was no interaction between loyalty and team fate ( $b = 0.001, p = .664$ ). A moderated mediation hypothesis was thus not supported. We re-ran the model using data from the last ten years to calculate a team's overall points, across leagues, as an indicator of team fate. The model produced similar results and was also non-significant. However, when analysing the *c*-path using Model 1, there was an observable effect of dysphoric self-transformativeness on loyalty ( $b = .13, p < .001$ ) (Fig. 5.3). We re-ran Model 1 replacing dysphoric self-transformativeness for euphoric self-transformativeness, which generated similar results (Appendix F4).

Fig 5.3

*Predicted group loyalty score (DV) for dysphoric self-transformativeness (IV) at values of the moderator (team fate)*



In contrast, with fusion as the outcome there was a significant interaction between dysphoric-transformativeness and team fate ( $b = -.01, p = .003$ ), indicating that dysphoric events had a particularly high impact on fans of unsuccessful teams (Fig. 5.4). When we re-ran the moderation model replacing dysphoria for euphoria we found that euphoric self-transformativeness only marginally interacted with team fate ( $b = -.01, p = .065$ ) (Fig. 5.4).

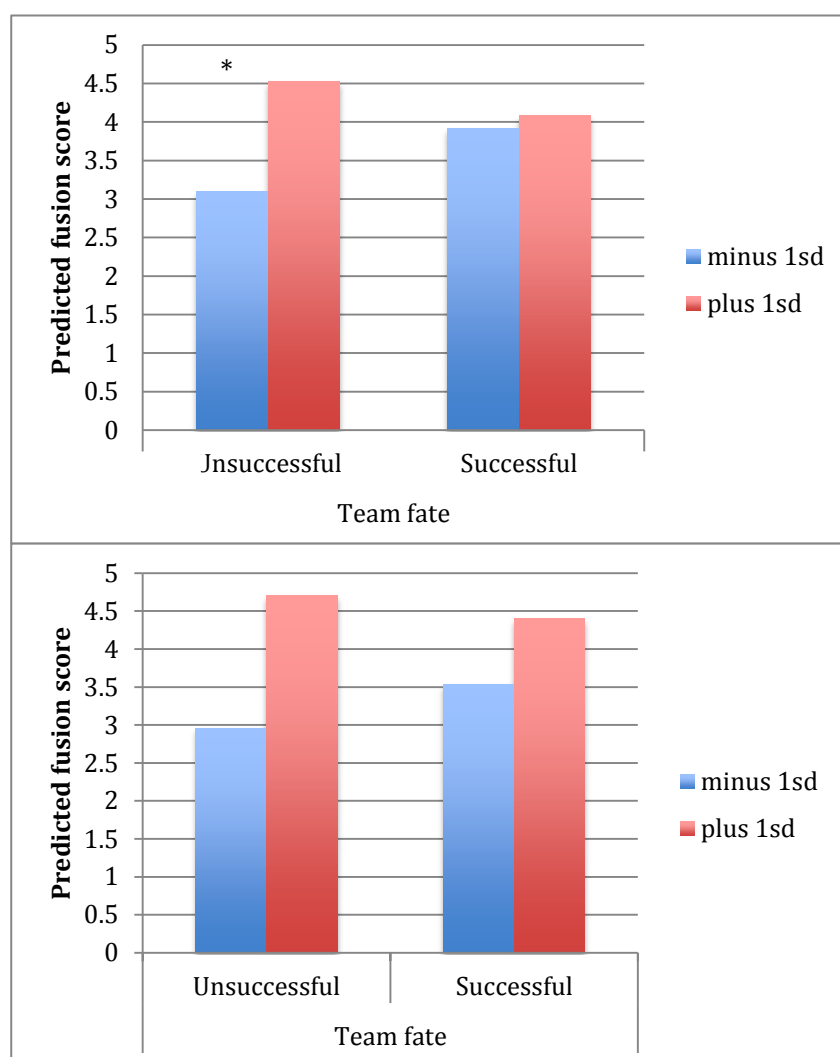
Fig 5.4

*Predicted fusion score for dysphoric (top) and euphoric (bottom) self-transformativeness at values of the moderator (team fate)*

These data suggest that while both euphoric and dysphoric self-transformative experiences are important for group loyalty and fusion, it is dysphoric self-transformativeness that is particularly important for fusing fans of unsuccessful teams.

### *Exploring national team*

The two World Cup items showed high internal validity ( $\alpha=.89$ ). Participants did not hold strong loyalty beliefs about supporting one's national team ( $M = 2.84$ ,



$SD = 2.01$ ) compared to the loyalty they reported to their club ( $M = 6.48$ ,  $SD = 0.73$ ),  $t(141) = -19.32$ ,  $p < .001$ , Cohen's  $d = -1.63$ . There was also more variation

in World Cup attitudes. There was a marginal negative correlation between being loyal to club and believing that one should be loyal to one's national team ( $r = -.15, p = .070$ ), such that those most loyal to their club were least likely to believe that one should stick with one's national team. This is in support of the ethnographic literature suggesting that the two identities are not particularly compatible due to the strains international tournaments put on players, the relative infrequency of international matches, and the increased cost of attending these games (Giulianotti, 1995; Pearson, 2012).

Indeed, 88.6% of participants reported supporting their club more than their national team (11.4% selected their national team over their club). In a one-way ANOVA, fusion marginally differed between participants who reported supporting their club the most ( $M = 4.00, SD = 1.35$ ) and people who reported supporting their national team the most ( $M = 3.30, SD = 1.55$ ),  $F(138, 1) = 3.60, p = .060$ , partial  $\eta^2 = .03$ .

## **5.5 Discussion**

### **5.5.1 Fusion, dissonance, and identification**

Our results indicate that identity fusion provides a novel explanation of group loyalty, independently of the effects of identification and past investment (taken as a proxy of cognitive dissonance). While our results show that dissonance has an effect on group loyalty, in support of Whitehouse and Lanman's framework (2014), we provide the first evidence that identity fusion is not simply a by-product of cognitive dissonance. Whitehouse and Lanman describe how ritual participants undergoing rites of terror rarely embark on these activities voluntarily and, having had no choice in the matter, would presumably not

experience a dissonance effect. The same principle could potentially be applied to football fans, who rarely choose their club for themselves, but are largely influenced by friends and family (see 4.4). In the present chapter, we tested whether dissonance and fusion predicted group loyalty empirically, and found that they constitute two independent paths to group loyalty.

Our results support and extend understandings of the role cognitive dissonance plays in lifelong loyalty. Effort invested over time in supporting the ingroup represents an extension of the free-choice paradigm, whereby the individual's past choices affect their future behaviours and beliefs (Festinger, 1962; Salti et al., 2014). Our results suggest that more intense dysphoric experiences among football fans can bolster the relationship between past investment and loyalty, but we also provide novel evidence of identity fusion's role in lifelong loyalty, independently of a traditional dissonance account. Moreover fusion helps to explain patterns that a dissonance account cannot. For instance, it seems far-fetched to think that group members would engage in extremely costly pro-group acts – even making the ultimate sacrifice of their own lives (Atran, 2016) – all in an effort to reduce the aversive experience of cognitive dissonance. Identity fusion theory, on the other hand, details how such acts arise from intense shared group events that transform the personal and social self, leading one to feel a unique responsibility to defend one's psychological kin at any cost (see 2.2.2 and results in Chapter 4). Conceptually, it may be that dissonance is a short-term outcome of poor performance (which is swiftly resolved, e.g. via loyalty), but fusion can be both a short-term and a long-term outcome of defeat. This could be examined by running longitudinal studies with new football fans of poorly performing teams. It may also be the case that

such fans remain loyal to their team because it is less attributionally ambiguous to do so in terms of understanding others' attitudes and behaviours.

Finally, this chapter has identified the importance of accurately defining fusion targets in fusion research, as only fusion to club and not fusion to fellow fans successfully predicted loyalty to one's club. This points to the subtleties of fusion theory. It may also be indicative of a new hypothesis; a 'silver lining' in which the effect of team loss is merely disappointment, rather than dissonance: if fans are fused to their fellow fans, then their primary investment is in the fans themselves, so a loss is disappointing but does not create dissonance. The distinction between fusion to fans and club, and this pair of targets' relationship to outgroup violence is investigated further in Chapter 8.

### **5.5.2 Implications**

We also found evidence to support the claim that identity fusion arises once an individual has experienced group events that they believe to be personally self-transform. In addition, we found that euphoric and dysphoric events, when seen as highly self-transform, can both result in strong levels of fusion and group loyalty. The impact that euphoric experiences have on transform the individual and forging lifelong bonds to their group may not be surprising (Cohen and Hoberman, 1983; Bohanek et al., 2005), but the finding that dysphoria can also self-transformative individuals and bind them to their group is a novel finding. This relates to Jong et al.'s (2015) findings that reflection on past dysphoric group events increases identity fusion.

This study provides further evidence that certain group events (e.g. key group victories and defeats) have the power to transform personal identities and the relationship between personal and social identities (Buhrmester et al., 2012;

Jong et al., 2015). In contrast to mechanisms designed to 'cut off reflected failure' or 'bask in reflected glory' associated with more fluid forms of group alignment, such as identification (Cialdini et al., 1976; Snyder et al., 1986; Wann and Branscombe, 1990), once people become fused they exhibit an unerring group loyalty (Gómez et al., 2011; Fredman et al., 2015). The extreme pro-group activities that fused individuals engage in are also well documented (Swann, Gómez et al. 2010, Swann, Gómez et al. 2010, Swann Jr, Buhrmester et al. 2014, Swann Jr, Gómez et al. 2014 Swann, Gómez et al. 2010, Buhrmester, Fraser et al. 2015). Such acts of extreme group commitment can be harnessed by both commercial enterprises (e.g. football clubs) and the socio-political sphere (e.g. military groups); for both good and bad outcomes. Be it businesses making a profit from the self-transformativeness of sports events in the billion pound sports and leisure industry, or the recognition of the importance of terrorist attacks in fusing citizens to nations or insurgents to terrorist groups: understanding the mechanisms through which people become fused to a group has significant implications at a societal level.

Research into identity fusion and its antecedents offers us unique opportunities to understand some of the most extreme social behaviours of our species and has the potential to help us channel the pro-group sentiments of fused individuals for positive social change. For instance, research could tell us if individuals who have been transformed by trauma and despair are more inclined to act with hostility to outgroups, perceiving outgroups as threats based on their self-transformative memories, or whether euphoric self-transformative experiences foster acts of extraordinary self-sacrifice and acts of charity.

By deconstructing the path(s) to fusion and understanding each stepping stone in the process, research can help develop cognitive and therapeutic approaches to de-fusion and help realign individuals away from groups that pose societal risks. Such research may thus provide a practical tool for national security, be it curbing local football hooliganism or fighting the global 'war on terror'. The possibility of creating de-fusion programmes opens up an ethical minefield and the development of any such initiatives would need thorough research in place to support them, as well as wide discussion involving all potential stakeholders. With the knowledge that dysphoric events contribute greatly to fusion, we are also in a position to advocate a reduction in the ill treatment of marginal groups; for these are the experiences likely to hold together disenfranchised collectives built on values of self-preservation and outgroup hostility.

## **5.6 Limitations**

Importantly, loyalty among fans is much more complicated than the measures used here suggest. As indicated in Chapter 2, fan loyalty reflects group belongingness, territory, masculine identity, and engenders ethnic and national identities (Taylor, 1987; Natali, 2007; Guilianotti, 2013). However, with improvements to study design we can start to tap into the cognition underlying these allegiances. The present section details the limitations we encountered when designing the study and analysing the results, including: the timing of data collection; issues with Arsenal fans; and the development of measures. I also present a number of avenues that this study has helped to identify as potential areas for further research, such as: priming effects; the role interference from recent euphoric or dysphoric events plays in perceptions of self-

transformativeness; classifying 'euphoric' and 'dysphoric' group events; and the relationships between self-transformativeness, reflection and affective arousal.

First, it is worth noting that the design of this study was correlational in nature and based on self-reports. Though our proposed direction of causality is supported by theory, it remains unproven. In the following two chapters, I address the causality issue with longitudinal experiments centred on the 2014 FIFA World Cup. In addition to the causality issue, this study used self-reports, which are potentially marred by problems of subjectivity, bias, and deliberate deceit (Podsakoff and Organ, 1986; Schwarz, 1999). Self-reports also focus on participants' explicit feelings, rather than the implicit drives we might be most interested in for this kind of research. Indeed, a substantial body of literature shows that the unconscious mind drives much of our thoughts, feelings and behaviours (Greenwald et al., 1998; Bargh, 2013; Jung, 2014 [1979]). As such, the self-reporting issue leaves this study open to the criticism that the subconscious could be directing the conscious to perceive a sense of self-transformativeness following a dysphoric event (perhaps as part of a strategy to reduce dissonance), when the individual has not actually been transformed at all. A circular claim such as this would be hard to unpick empirically, but future research should aim to falsify such claims by accessing participants' unconscious drives, perhaps in a form similar to implicit association tests.

## **Sampling**

### *Timing data collection*

Data was collected during Autumn 2015 (October 23<sup>rd</sup> 2015 – November 2<sup>nd</sup> 2015). This period is a relative low in the British football season – after the

initial excitement of the league starting in late Summer, but before any club's fate is set for that year (usually considered to occur the following Spring). We opted to run the study at this time as it was a quiet point in the season so fans would not be too affected by state fusion and waiting for the off-season would have resulted in collecting data less than 6 months before the intended submission date of the thesis. Furthermore, 'friendly' matches are still played during the off-season and clubs also earn vicarious prestige or shame depending on their players' performance in the international 2016 Euros, which could also influence results.

However, despite our considerations around the timing of data collection, some of the participants would have recently encountered a loss or defeat, e.g. from attending a recent match, through watching footage of their club on social media, or discussing games with peers. Furthermore, there were a disproportionate number of Arsenal fans in the sample, who may have been particularly affected by the timing of the survey due to an embarrassing 0-3 loss to a lower league club (see Appendix F1). This may have influenced Arsenal fans' sense of being transformed by the event and even temporarily led to a shift in state fusion. We ensured that the fusion measures were presented at the start of the study, so that participants were not primed by the euphoric and dysphoric experiences they were asked to recall. Future research could try to control for these factors by questioning participants about their recent experiences at the end of the survey. The consequences of priming on state fusion is an emerging area of focus for identity fusion researchers (Swann and Buhrmester, 2015) and football fans could be a useful population in which to investigate this,

considering how football group identity is explicitly focused on victory and defeat.

### *Convenience sample*

Although the age range and mix of educational backgrounds is broadly representative of football fans, there are issues of selection and social acceptability bias in this study. However, the study supports the theory and related empirical work (e.g. Jong et al., 2015) around transformative dysphoric experiences and identity fusion. The study could be repeated with other populations to increase the generalizability of our findings.

### **Development of new measures**

We utilised a number of new measures, which provided results in support of our hypotheses. However, these measures incur a number of limitations, as described in this section.

### *Categorising euphoric and dysphoric group events ('team fate')*

In both this study and Chapter 4, we sought to look at long-term group commitment. We were interested in the cumulative effect of supporting a generally euphoria- or dysphoria-inducing club. To test this we utilised a club's points gained in the last season or over the last ten years (see 4.5 for a discussion of this methodology). For the present chapter, we wanted to include all the available data, which meant that not all clubs fell comfortably within the parameters of a binary 'euphoric' vs. 'dysphoric' variable. The points system based on goals, victories, and defeats, is also problematic as discussed in Chapter 4. For instance, a draw may be a euphoric event for Crystal Palace fans facing a

high-ranking team, but dysphoric for fans of the high-ranking team. Similarly a draw between two high-ranking teams may range from euphoric to dysphoric depending on the quality of the performances and whether there are any long-term rivalries between the two teams. Furthermore, it is possible that dysphoria is particularly transformative for fans of generally successful teams, who rarely experience humiliating defeats. This could explain why successful teams (who still experiences losses) have long-term fused fans.

The fluctuation of emotions over a season or even a single game is extensive, such that awarding clubs points for victories and defeats is not an accurate measure of euphoria or dysphoria. A game that is classed as euphoric, i.e. a win, may have been excruciating to watch throughout, right up until the final goal was scored at the last minute. On the other hand, a 'dysphoric' game could feel euphoric for most of the 90 minutes, e.g. a close loss against a superior team in which the losing club dominated possession of the ball and was in the lead until the closing minutes of the game. The ebbs and flows of affective states and social interaction during group events can be measured in more detail using physiological and proximal techniques, such as heart rate (Xygalatas, 2008; Fischer et al., 2014) or social badge monitoring (Halberstadt et al., 2016). We incorporate physiological measures in Chapter 7 to start to address this.

More broadly, there is a need for a standardised approach to categorising group experiences as 'dysphoric' or 'euphoric'. Binary variables such as the one used in Chapter 4 or the use of league points as in the present chapter help to paint a broad picture but finer detail can only be achieved with more precise measures. In terms of football, this could be achieved by collaborating with sports statisticians to develop models that help us ascertain whether clubs have

gone through euphoric and dysphoric events, considering factors such as the status of the opposition, long-term rivalries, recent victories and defeats, timing of goals, sustained arousal levels (duration of euphoric/dysphoric periods during the match), kick offs etc. Similarly, comparable approaches could be used with other target groups, such as nation, military platoon, or terrorist cells to produce continuous variables, akin to a finer grained 'league table' of points.

### *Group loyalty*

We experienced ceiling effects with the loyalty measure so it is possible that we did not identify an appropriate channel for lifelong loyalty. Future measures could perhaps include items pertaining to levels of actual investment, e.g. *I would never miss a match no matter what* or *If my club was in trouble I would always financially invest*. It would also be interesting to test loyalty to peer group, i.e. relational ties, to see if these mediate the relationship between self-transformativeness and loyalty to one's fan group. Finally, loyalty to more relational groups may be an exciting avenue of research to pursue combined with more dynamic measures such as fight and die (Swann et al., 2010b) or behavioural outcomes (Chapter 8 starts to delineate relational and categorical fusion groups by contrasting fan and club fusion).

### *Self-transformativeness*

The present chapter has identified self-transformativeness as an important variable in understanding the dysphoric pathway to fusion. At the time of data collection, no items explicitly designed to measure self-transformativeness had been published and we used a basic, open measure, which could be associated

with ambiguity, e.g. the measure may reference character over identity, or tap in to emotional intensity rather than actual transformativeness.

In this exploratory study, our measures of self-transformativeness were brief and future research will need to explore its construct validity and in-depth scales in more detail, as well as test the construct cross-culturally (we test self-transformativeness in the UK, Brazil and Spain in Chapters 6 and 7 using similar, simple items). Importantly, we used a one-item measure and a multi-item scale is required for future work. This future scale should avoid directly asking the 'shaping' question, which may be quite challenging to accurately answer, instead research ought to focus on the self's relationship to the group; the porous boundary between self and group, which appears to change following particularly intense shared experiences.

A limitation of the approach used in this chapter is the variation in content of participants' self-transformative experiences. Our options were to either ask participants to think about a club-specific event that we had pre-selected or to invite participants to think about an experience of their choosing. We chose the latter because although we lost control over which exact event participants thought about, we could be sure that the event was (a) experienced by them directly, and (b) personable, i.e. an event they really cared about. Furthermore, had we pre-selected events, variation would not have been particularly reduced as in seeking to maximise the range of participants in this study, we had included 42 eligible clubs. This would have necessitated the devising of multiple, comparable euphoric and dysphoric events.

Why are some fans more likely to experience events as 'dysphoric' or 'euphoric' in the first place and why are some more likely to go on to report

those events as being personally shaping? Although fusion measures have not been found to relate to personality or demographic traits (Swann et al., 2009), there must be individual differences that account for this variation. Perhaps individuals from these backgrounds have a heightened capacity for social bonds beyond actual kin networks, which would be advantageous in environments where resources are limited or uncertain. This may translate into the propensity for fusion – and a willingness to fight and die for the group - in later life.

Future research may benefit from investigating the relationship between susceptibility for fusion and perceived ‘harsh’ environments. Harsh environments may lead to certain cognitive advantages (Mittal et al., 2015; Frankenhuis et al., 2016), one of which may be a propensity to fuse to non—kin networks, which can buffer the individual in times of limited or uncertain resources. More work is also required to determine ontogenetic sources of fusion variation.

### *Affective intensity and reflection*

Two areas that relate directly to our results but were not included in this study concern the precise mechanisms of how one becomes transformed by shared group experiences: affective intensity and reflection (Whitehouse and Lanman, 2014; Jong et al., 2015). Although self-reports of affect have proven to be a weak correlate of physiological arousal (Xygalatas et al., 2013), future research could explore ways of appropriately testing affect post-event. By improving our understanding of the affective processes underlying the perceptions of self-transformativeness, we stand a better chance of comprehending how one of the first proposed stepping-stones to identity fusion, self-transformativeness, occurs. Finally, the relationship between self-transformativeness and reflection

is left unexplored in this study. Jong et al. (2015) empirically tested the relationship between reflection and fusion and found that increased reflection led to increased fusion over time. We imagine future research into self-transformativeness' role in this relationship will be fruitful for researchers investigating the antecedents of identity fusion.

### *Evaluating the limitations of Chapter 5*

Overall, our results suggest that feeling a sense of self-transformativeness following an intense group event leads to identity fusion and group loyalty. The origin of this self-transformation seems to lie in both euphoric and dysphoric self-transformative events. In the future, replicating the study with Arsenal fans and increasing the number of fans from each of the other clubs can address discrepancies between Arsenal and non-Arsenal fans. Through the discussion of this study's limitations, a number of promising lines of research have emerged: how priming affects fusion; the effect of interference from recent transformative events on perceptions of past self-transformative events; new protocols for identifying euphoric/dysphoric football events; the development of a general framework for dysphoric / euphoric group events; and furthering understandings of the path to fusion by integrating affective arousal, reflection, and self-transformativeness.

## **Conclusions**

Group loyalty is an essential mechanism for group survival. Traditional accounts of group loyalty have explored well-studied mechanisms, i.e. identification (Ellemers et al., 1997; Zdaniuk and Levine, 2001; Van Vugt and Hart, 2004) and cognitive dissonance (Aronson and Mills 1959, Gerard and Mathewson 1966),

but leave certain aspects of loyalty unanswered. Fusion is a relatively new theory (Swann et al., 2009) that addresses the lacunae concerning high membership costs and experiences of extreme or prolonged periods of group loss (Whitehouse and Lanman, 2014; Buhrmester and Swann, 2015). In this chapter we first examined the hypothesised relationship between fusion and perceptions of lifelong loyalty to one's club. We further explored the hypothesis that fusion and lifelong loyalty are not merely a reflection of past investment in a group, but also reflect a deeper, memory-based process of feeling personally transformed by key group events, both euphoric and dysphoric in nature. We found broad support for these hypotheses. Results suggest that feeling personally self-transformed by club events (e.g. crucial wins and losses), rather than time invested in the club, leads to greater identity fusion to one's club. In turn, fusion engenders a sense of lifelong club loyalty.

Our results specifically identified self-transformative group victories and defeats as key to the relationship between fusion and lifelong loyalty, which is in support of the current theory that one's personal and social selves can 'fuse' together resulting in an extraordinary pro-group mentality (Whitehouse, 2005; Atkinson and Whitehouse, 2011; Whitehouse and Lanman, 2014; Swann and Buhrmester, 2015). Unpacking the cognitive nuances of lifelong loyalty and extreme group commitment is a delicate operation and, while traditional dissonance accounts may partially explain the phenomenon of lifelong loyalty, our results suggest that the theory of identity fusion and its associated mechanisms provides a fuller explanation.

This chapter has shown that sharing self-transformative experiences with other group members helps to promote the fusion of personal and social selves,

leading to lifelong loyalty. The next two chapters explore these processes in more detail by investigating fusion to nations and national teams following the 2014 World Cup. How long does it take to be sufficiently 'transformed' by an event for it to be able to alter fusion levels? What is it about high-arousal events that transform us, and can we test this physiologically? Furthermore, what outcomes are associated with fusion – both cooperative and hostile? Chapter 6 investigates fusion to nation in a longitudinal, online survey design and Chapter 7 tests a related set of questions concerning fusion to national teams at live World Cup games.

## Chapter 6

### Fusion to nation and the 2014 World Cup

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Few human activities can claim to generate audiences on the scale that international football events attract. The 2014 FIFA World Cup, hosted by Brazil, was watched by 3.2 billion around the globe – nearly half the planet (FIFA, 2015). Far fewer (approx. 3.5 million) attended matches in person, spending huge sums to be as close to the action as possible (FIFA, 2014a). Some have noted that experiencing football matches in person is extraordinarily impactful, evoking intense shared emotions along with unique ritualised chanting, stamping, and inter-group violence (Giulianotti, 1995; King, 2002; Stroeken, 2002; King, 2003; Brown, 2007; Stone, 2007; Weed, 2007; Pearson, 2012). As well as in stadia experiences, other communal spaces play a significant role in heightening fan experiences (Stone, 2007, Weed, 2007). For World Cup events, these include the raucous fan zones or ‘Fan Fest’ sites, attracting just over 5 million fans for the Brazilian World Cup (FIFA, 2014a). Are global sporting events, such as the World Cup, genuinely transformative psychologically or just a triumph of advertising and media hype? Building on Whitehouse’s theory of ritual modes (Whitehouse, 2005; Whitehouse and Lanman, 2014), we sought to answer this question by examining the effects of the world cup on fusion to nation (present chapter) in an online study, and fusion to national team (Chapter 7) in a field study.

With a natural laboratory of cross-national participants and opportunities to apply theories to a domain relevant to billions of people (Armstrong and Giulianotti, 1997), the realm of international football provides a rich research ground. There is substantial evidence that national (and local)

sporting events impact health. For instance, we know that the number of heart attacks in supporting countries increases during World Cup finals (Wilbert-Lampen et al., 2008). As high-intensity games, losses, home losses, and passionate fans create high risk scenarios for myocardial infarction (Leeka et al., 2010), we may see a rise in heart attacks among Brazilians that correlates with their epic defeat in 2014. For more distant spectators or citizens not actively engaged in their team's victories and defeats, the constant updates of World Cup events are unavoidable in mainstream media and these too can be highly impactful. How does a dysphoric national sporting event affect fusion to one's nation in relation to modes theory and identity fusion?

The FIFA World Cup, like other international 'mega-events' (Horne, 2007) has attracted considerable attention from social psychologists and anthropologists. National sporting events bring nations together to watch and support their teams; both unifying spectators through joint attention (e.g. cheering, stamping, exclaiming) (Tomasello, 1995; Wolf et al., 2015) and emphasising cultural or national divides through the element of competition and increased threat perception (Brewer, 1999; Riek et al., 2006). For instance, the 2014 World Cup had the fusion-like motto 'all in one rhythm', to describe the sense of belongingness that fans feel when watching games together. On the one hand, this reflects the deep sense of nationalism that some spectators feel when watching their national teams play. On the other hand, 'all in one rhythm' and other seemingly cohesive sentiments pertain to FIFA's drive for positive international relations (Allison and Monnington, 2002) inspired by football. This latter motivation may in part be inspired by the Christmas truce of 1914, during

World War I, when British and German troops played football over no-man's land.

Using longitudinal techniques, the present study investigates how emotionally intense sporting events, such as the FIFA World Cup, may have the power to transform one's identity permanently in ways that are associated with significant behavioural outcomes. We also examine relationships between fusion and pro-group behaviours, including ingroup donations and willingness to fight and die for one's group. Finally, we assess participants' expectations of their team's performance to preliminarily explore whether fusion influences such perceptions. In using cross-cultural cohorts gleaned from beyond university subject pools, we were able to include participants with a range of demographic variables from the Global South (Brazil) and North (England and Spain) and with varied World Cup histories, i.e. high performance (Brazil and Spain) and low performance (England).

### **6.1 England, Spain, and Brazil as football nations**

Aside from a brief hiatus during the second world war, the World Cup has run every four years since 1930 (Goldblatt, 2006). England won it once (1966) and has featured in 16 out of 20 tournaments. Brazil has won the most World Cup titles (1958, 1962, 1970, 1994, 2002) and featured in every tournament. Finally, Spain –included in this study for comparison purposes - has won the World Cup once (2010) and featured in 14 out of 20 tournaments. National football events are thus embedded in national histories and may be seen to form part of one's national identity – be it one typically full of pride (e.g. for Brazilians) or embarrassment (e.g. for England).

The 2014 World Cup held in Brazil, was a sporting catastrophe for all three of our samples, particularly for the hosts (Sullivan, 2014). One São Paulo newspaper reported Brazil's 1-7 defeat in the semi-finals, the worst home defeat in World Cup history, as a 'historical disaster' (Bowman, 2014). Other papers continued in similar vein: 'Humiliation at Home' (*O Estado de S. Paulo*), 'Shame, embarrassment, humiliation' from *O Globo*; 'The Worst failure in History' (*Diario de Santa Maria*); and simply 'Humiliation' from both *O Liberal* and *Comercio*. For Brazilians experiencing a home defeat, with the attendant fanfare of the World Cup for weeks, if not months in advance, with entire towns shut down for match days, this loss was particularly acute.

Other major defeats in the 2014 World Cup included Spain's shock exit and England's somewhat more predictable but very early exit. Some supporters travel thousands of miles to participate in their nation's major quadrennial sporting event – taking weeks off work, with financial uncertainty looming for many supporters that set off on their football 'pilgrimage' with the duration of their trip to be determined by the success of their team. The 2014 World Cup was, fortunately for us, a particularly awful year for all three of our sample populations and had the potential to be perceived as dysphoric for some participants. Previous research shows that for the majority of participants, fusion to categorical ties such as one's nation is likely to be irrevocable (Buhrmester et al., 2012; Fredman et al., 2015), even following historic threats (Vázquez et al., 2017b). However, this refers to rank order stability and does not concern relative, individual differences. How do dysphoric sporting events affect individuals and, based on findings from Chapter 5, does self-transformativeness drive individual increases in fusion? The present study tests fusion before and

after the World Cup, along with measures of self-transformativeness, to see if the dysphoria surrounding their team's defeat in the World Cup would be enough to increase fusion to one's nation over time.

### **6.1.1 Self-transformativeness as a cause of fusion**

Given the links between fusion and extreme outcomes (see 2.2.5 or the results of Chapters 4 and 8), researchers have naturally begun to investigate the points at which increases in fusion arise. As detailed in the preceding chapters, one perspective developed by Whitehouse and colleagues focuses on the impact of intense, shared group experiences (Whitehouse, 2005; Whitehouse and Lanman, 2014; Jong et al., 2015). In Chapter 4 we found that fans of unsuccessful teams were more likely to be fused than fans of successful teams, and that this effect was driven by dysphoria (self-reported emotional intensity and coded affective arousal). In Chapter 5 we investigated the role self-transformativeness plays in fusion to clubs and group loyalty. However, the study was retrospective in that we asked fans to think about past events of their choosing and tell us how much those events transformed them.

Here we examine the relationship between self-transformativeness and fusion in a longitudinal design using the 2014 FIFA World Cup as a shared event for the citizens of England, Spain, and Brazil. This study tests fusion to an abstract, categorical group-target: nation. This differs from the more relational targets used in the other chapters in this thesis which test fusion to club and fellow fans. This is because the World Cup is symbolic of national identity and increases in national fusion are likely to entail significant consequences, e.g. more extreme nationalistic behaviours. Regarding symbolic national identity, we would expect fusion to work through the lens of extended fusion in this study

and relate to shared demographics, beliefs or ideologies, rather than shared experiences with individual group members. As well as being able to track fusion over time, the present chapter has the advantage of including participants from multiple countries, which also extends the work in Chapters 4 and 5. This should further reduce the WEIRD bias found in much of the SIT literature and make our results more generalizable. So, if self-transformativeness can predict individual changes in fusion, does it do so across Brazil, England and Spain or does the 'transformativeness' of the event vary across cultures?

### **6.1.2 Pro-group behaviours: ingroup donations and willingness to fight and die**

As a result of the personal self becoming interwoven with the social self, fused individuals are willing to go to extraordinary lengths for their groups. For instance, individuals who score highly for fusion give more of their own money to the ingroup than weakly fused individuals do (Swann et al., 2010b). Pro-group behaviours may also entail a parochial element (Bernhard et al., 2006; Choi and Bowles, 2007). In predominately male crowds fuelled with alcohol, competitiveness and notions of territory, inter-group violence at football matches comes as little surprise (Dunning et al., 1986; Guilianotti, 2013). However, the precise mechanisms for the anti-social behaviour, or hooliganism, associated with European and Latin American football may be more complex than this and revolve around the fusion of personal and group identities (Whitehouse et al., 2013; Whitehouse et al., 2014; Atran, 2016). Indeed, identity fusion is associated with an increased willingness to fight and die for the group (Swann et al., 2014a) and fused individuals have been found to actually enact this behaviour on the battlefield, e.g. Libyan revolutionary groups (Whitehouse et al., 2014) and

Kurdish combatants (Atran, 2016). We therefore include the fight and die scale here and examine the relationship between extreme pro-group sentiments and fusion following dysphoric sporting events. In line with research by Vázquez et al. (2017b), we predicted that the relationship would be resilient to trauma.

Second, the present study includes an unprecedented inter-group dimension by presenting participants with a chance to allocate money to either a football-related ingroup or outgroup. To examine how fusion relates to ingroup biases following dysphoric group events, we asked English, Spanish, and Brazilian participants how much they were willing to donate to in- and outgroups before and after the humiliation of exiting the World Cup.

Finally, Buhrmester et al. (2015) found that psychological kinship predicted ingroup donations and mediated the relationship between fusion and extreme pro-social actions. In Chapter 4 we found that psychological kinship mediated the relationships between fusion and sacred values, and self-sacrifice. Here, we sought to replicate and extend Buhrmester et al.'s original finding by testing for psychological kinship's mediating role between fusion and ingroup donations, and willingness to fight and die. We also extended this work by working with three cultural contexts: England, Spain and Brazil. As explained in Chapter 3, Brazil was selected for use in this thesis due to being the host for the 2014 World Cup host and the way in which it could complement the Anglo-centric studies in Chapters 4 and 5 (Chapter 7 goes on to include a majority of Brazilian participants and Chapter 8 is exclusively Brazilian). We then had the opportunity to extend the present study and gain relatively large sample via a Spanish colleague (Alexandra Vázquez Botana at UNED, see Appendix C). The inclusion of these additional Spanish participants was considered beneficial

because it could (a) help improve generalizability and (b) explain differences between the English and Brazilian samples, because Spain shares traits with each of the other samples: Spain is both Latin (like Brazil) and European (like England); and has had recent football success (like Brazil) and would be playing away at the World Cup (like England).

## 6.2 Hypotheses

H6.1: Overall, fusion to nation is resilient to a World Cup defeat.

H6.2: For some individuals fusion will increase; an effect driven by a sense of 'self-transformativeness'.

H6.3: Fusion predicts pro-group behaviours, i.e. ingroup donations and willingness to fight and die for the group. These effects will be mediated by psychological kinship.

## 6.3 Methods

English ( $N = 241$ , 59 females;  $M$  age = 38.93,  $SD = 15.60$ ), Spanish ( $N = 282$ , 175 females;  $M$  age = 33.41,  $SD = 10.28$ ), and Brazilian ( $N = 306$ , 148 females;  $M = 27.15$ ,  $SD = 8.24$ ) citizens completed the survey, creating a total  $N$  of 829. Due to attrition,  $N = 419$  for T1-T2 analyses and  $N = 217$  for T1-T2-T3 analyses (attrition is discussed thoroughly in 6.4.1). Three online surveys were released: 6 months before the World Cup (T1) to test for a base fusion level; during the World Cup (T2); and 1 year following the event to track fusion and other key variables over time (T3). To control for the increased salience of national identity surrounding the game that might elevate fusion levels, we released the

survey immediately before the World Cup to half of each nationality of our sample (T2a) and immediately after each nation exited the World Cup to the other half of each nationality (T2b).

Ethical approval was obtained from the School of Anthropology and Museum of Ethnography Research Ethics Committee (SAME REC) in accordance with the procedures laid down by the University for ethical approval of all research involving human participants. A short online questionnaire was given to a diverse cross-section of English, Spanish, and Brazilian citizens at each time point, using convenience samples that were recruited at T1. In England, participants were predominantly recruited via social media (i.e. Facebook, Twitter) and a large community mailing list (for a dance class I was affiliated with), as well as student mailing lists. In Spain, participants were recruited through student subject pools and a snowball technique. In Brazil, participants were recruited through university-based social media (Facebook, WhatsApp) and student mailing lists. One participant from each nation could win a £25 Amazon gift voucher (or equivalent). Participants were told that they would only be eligible for the prize if they completed the second phase of the study in the summer (participants were blind to which condition they would be in (2a or 2b) and were randomly allocated). We then emailed all participants again a year later to invite them to complete the final survey and offered a £50 prize incentive to each nation's participants.

### *Measures*

Survey items were included in the following order: at all time points participants completed the 7-item verbal fusion scale (Gomez, 2011), the three-item psychological kinship scale (Buhrmester et al., 2015) and the fight and die scale

(Swann et al., 2010b) (see Appendix B for items). We selected 'nation' as the target because, as described in 6.1, there is reason to believe that for some individuals, national identities may be impacted by World Cup events. Changes in fusion are likely to entail significant consequences so we wanted to investigate the target that would entail the most impactful social consequences, e.g. if fusion increases, we might expect more extreme nationalistic pro-group behaviours. At T3, we also included an additional fusion to national team measure to verify and contrast the results of the present chapter with those in Chapter 7, which focuses on national team identity.

For T1 and T2 we included an inter-group donations measure to test preferences for a football-related ingroup over an outgroup. In a variation of Swann et al.'s (2010) donations measure, we told participants that our funding body had allocated £5, a sum that we usually gave to charity, for each participant who completed our study<sup>36</sup> (Appendix B). Participants were then invited to donate this sum to two charities, however they chose. One charity was described as providing help for junior football players in need from their own country, while the other helped junior players from other countries. By testing the measure longitudinally we were able to see if any associations between ingroup bias and fusion would increase or decrease following World Cup events.

To explore how fusion to nation impacts expectations of national sporting performance, at the end of the T1 survey we also assessed participants' expectations of the 2014 World Cup (*what result do you expect?*). Participants could choose from the following scale, which was treated as ordinal data: *play in group stage, reach quarter-finals, reach semi-finals, reach the final, win the final*.

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<sup>36</sup> Spanish participants were presented with 5 euros and Brazilian participants were presented with R\$20 real (an equivalent sum), this was then transformed in the dataset by dividing by 4.

For T3, we included a question about how ‘self-transform’ the event was on a 7-point scale; *‘If I had not experienced supporting [nation] in the 2014 World Cup I would be... the exact same person I am today VS an entirely different person’*. Suspecting that attrition after this time period would be an issue, we wanted to keep the survey-length to a minimum and try to retain participants. We thus decided to drop the intra-group donations measure as we already had strong data on ingroup biases and had no further predictions about it.

### Translation

Brazilian psychometric measures were translated into Brazilian Portuguese by three English-Brazilian Portuguese bilingual speakers. They were then back translated and checked for validity by a native English speaker. English and Spanish psychometric measures had been previously validated. Other items and instructions were translated and back translated from English to Spanish and Brazilian Portuguese by bilingual speakers.

## **6.4 Results**

### **6.4.1 Attrition and demographic variables**

This study suffered from attrition: 58.1% of the sample completed T2 but just 29.54% completed all three time points. There are several reasons for this. First, there was an 18 month gap between the first and final surveys (6 months between T1 and T2, and a further 12 months until T3). This meant that participants may have lost interest or forgotten the first survey, or even changed their email addresses in that timeframe. Importantly for similar recruitment drives in the future, participants were only eligible for the prize incentive if they

completed T2, which suggests that the prize was not a sufficient incentive and may not have been the primary incentive for most participants. Next, the participants who dropped out of the survey before T2 may have been disincentivised by the first survey. For instance, they could have found it too time consuming, too boring, or in some way challenging (e.g. the fight and die scale) (see 6.6 for a more in-depth discussion of this study's limitations). However, by contrasting our scores for the key variables between participants who completed the study and those who dropped out, our analyses suggest that the sample was unlikely to be biased due to attrition (see Appendix G1 for these analyses).

There were demographical differences between participants who only completed T1 and who completed T1 and later surveys (Appendix G2). There were also demographical differences between English, Spanish, and Brazilian participants (Appendix G2). We found weak and inconsistent patterns between our key variables and the demographic measures (Appendix G3), which did not seem to have any bearing on our research questions, so they were dropped from subsequent analyses.

#### **6.4.2 Descriptive statistics**

*Fusion in England, Spain, and Brazil before, during, and after the 2014 World Cup*

##### Fusion's relationships with other variables

For all nations, at each time point, fusion correlated with psychological kinship ( $r > .48, p < .001$ ). Fusion also correlated with ingroup donations for the three

nations at T1 and T2a ( $r > .23, p < .011$ ), but at T2b immediately after exiting the World Cup, there was not a significant association for either Spain ( $r = .19, p = .115$ ) or Brazil ( $r = .16, p = .325$ ) following the World Cup. The association between fusion and ingroup bias may have been resilient to defeat for English participants because the English national team experiences embarrassing losses more frequently and hence was not such a shock.

Fusion also correlated with fight and die for all three nations at T1 ( $r > .48, p < .001$ ). While Spain and Brazil held similarly strong associations between fusion and fight and die at all time points, for England the relationship disappeared at T2a ( $r = .20, p = .172$ ), T2b ( $r = .20, p = .172$ ) and returned relatively weakly at T3 ( $r = .34, p = .015$ ). It is possible that experiencing England exit the World Cup decreased English participants' willingness to fight and die for their nation because of England's history of international football violence and the subsequent measures taken to curb international football-related violence in the UK<sup>37</sup>. Finally, fusion correlated with expectations of the World Cup for all three nations ( $r > .22, p < .002$ ).

### Fusion over time

Of the sample that completed the study, 51.3% increased in fusion over the course of 18 months. In a paired-samples t-test, with nations collapsed, fusion marginally increased over time from the start of 2014 ( $M = 2.94, SD = 1.35$ ) to summer 2015 ( $M = 3.05, SD = 1.37$ ),  $t(217, 2) = -1.74, p = .083$ . We then compared fusion between the three nations at each time point using Bonferroni-corrected one-way ANOVAs (Table 6.1). Fusion was significantly higher at T1

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<sup>37</sup> The English club ban (1985-1990) was imposed by UEFA following an English-led riot in Belgium's Heysel stadium. This occurred during the peak of the English hooligan era (see more on hooliganism in Chapter 8).

( $F(812, 2) = 14.76, p < .001, \eta^2 = .04$ ) for Brazil ( $M = 3.32, SD = 1.46$ ) than for England ( $M = 2.74, SD = 1.30$ ) or Spain ( $M = 2.82, SD = 1.38$ ).

For wave 2a, fusion in Brazil ( $M = 3.10, SD = 1.35$ ) was significantly higher than in England ( $M = 2.51, SD = 1.11$ ), but not Spain ( $M = 2.73, SD = 1.18$ ),  $F(259, 2) = 4.88, p = .008, \text{partial } \eta^2 = .04$ . For wave 2b, fusion was significantly higher in Brazil ( $M = 3.46, SD = 1.28$ ) than either England ( $M = 2.68, SD = 1.22$ ) or Spain ( $M = 2.68, SD = 1.22$ ),  $F(154, 2) = 6.49, p = .002, \text{partial } \eta^2 = .08$ .

At T3, fusion in Brazil ( $M = 3.34, SD = 1.40$ ) was significantly higher than in England ( $M = 2.78, SD = 1.42$ ), but not Spain ( $M = 2.95, SD = 1.22$ ),  $F(217, 2) = 3.11, p = .047, \text{partial } \eta^2 = .03$ . Skew and kurtosis were less than 2 and greater than -2 in all cases ( $SE = .14$  to  $.66$ ).

Table 6.1

*Descriptive statistics for fusion at three time points*

<b>T1</b>					
	<i>N</i>	<i>M (SD)</i>	<i>Skew (SE)</i>	<i>Kurtosis (SE)</i>	
<b>England</b>	234	2.73 (1.30)	.57 (.16)	-.39 (.32)	
<b>Spain</b>	282	2.82 (1.38)	.65 (.15)	-.16 (.29)	
<b>Brazil</b>	299	3.32 (1.46)	.32 (.14)	-.54 (.28)	
<b>T2a (before cup) T2b (after cup)</b>					
	<i>N</i>	<i>M (SD)</i>	<i>Skew (SE)</i>	<i>Kurtosis (SE)</i>	
<b>England</b>	T2a 52	2.52 (1.11)	.31 (.33)	-.76 (.65)	
	T2b 47	2.69 (1.21)	.75 (.35)	-.31 (.68)	
<b>Spain</b>	T2 a 82	2.73 (1.18)	.42 (.27)	-.55 (.53)	
	T2b 67	2.68 (1.16)	.35 (.29)	-.45 (.58)	
<b>Brazil</b>	T2a 128	3.10 (1.35)	.40 (.21)	-.58 (.43)	
	T2b 43	3.46(1.28)	.18 (.36)	-.72 (.71)	
<b>T3</b>					
	<i>N</i>	<i>M (SD)</i>	<i>Skew (SE)</i>	<i>Kurtosis (SE)</i>	
<b>England</b>	51	2.84 (1.65)	1.31 (.33)	1.76 (.66)	
<b>Spain</b>	86	2.95 (1.22)	.14 (.26)	-.89 (.51)	
<b>Brazil</b>	80	3.34 (1.40)	.26 (.27)	-.51 (.53)	

*Self-transformativeness in England, Spain and Brazil one year after the World Cup*

Self-transformativeness was tested only at T3. First we conducted a one-way ANOVA to contrast self-transformativeness in the three nations. Self-transformativeness did not significantly differ between Brazil ( $M = 1.86, SD = 1.36$ ), Spain ( $M = 1.69, SD = 1.56$ ), and England ( $M = 1.71, SD = 1.15$ ),  $F(214, 2) = .37, p = .690$ , partial  $\eta^2 = .003$ .

*Pro-group behaviours*

We investigated ingroup donations by running Bonferroni-corrected one-way ANOVAs to contrast ingroup bias (donations) between England, Spain, and Brazil (Table 6.2). At T1, English participants made significantly more ingroup donations than Spanish participants,  $F(2, 763) = 6.58, p = .001$ , partial  $\eta^2 = .02$ . Brazilians made fewer ingroup donations than English participants, but more than the Spanish, though the differences were not significant. The pattern was similar at T2,  $F(2, 408) = 3.66, p = .027$ , partial  $\eta^2 = .02$ . Second, we compared how willing participants from England, Spain, and Brazil were to fight and die for their country by running a one-way ANOVA at each time point. At T1, Brazil scored significantly higher for fight and die than Spain or England,  $F(2, 793) = 6.30, p = .002$ , partial  $\eta^2 = .02$ . At T3 there was a marginal difference in scores between the nations, with Brazil scoring highest at T3 ( $F(2, 213) = 2.93, p = .056$ , partial  $\eta^2 = .03$ ) (Table 6.6). There were no statistical differences in fight and die scores between nations during the World Cup: T2a ( $F(2, 255) = 1.06, p = .347$ ); T2b ( $F(2, 149) = .53, p = .593$ ).

Table 6.2

*Descriptive statistics for ingroup bias (max = 5) and fight and die*

	Ingroup Donation			Fight and Die			
	<i>M (SD)</i>			<i>M (SD)</i>			
	<b>T1</b>	<b>T2a</b>	<b>T2b</b>	<b>T1</b>	<b>T2a</b>	<b>T2b</b>	<b>T3</b>
<b>Spain</b>	2.90 (1.25)	2.79 (1.14)	2.88 (1.20)	1.73 (.90)	1.72 (.95)	1.84 (.93)	1.76 (.81)
<b>England</b>	3.33 (1.45)	3.06 (1.37)	3.43 (1.19)	1.85 (.86)	1.66 (.62)	1.85 (1.01)	1.80 (.88)
<b>Brazil</b>	3.13 (1.25)	3.11 (1.37)	3.39 (1.90)	2.01 (1.04)	1.86 (1.03)	2.02 (.85)	2.07 (.93)

### 6.4.3 Hypothesis testing

#### **H1: Fusion to nation is resilient to defeat at the World Cup**

*Analysis:* To test whether fusion to one's nation would be resilient to defeat after the 2014 World Cup, we ran a repeated-measures ANOVA with fusion as the factor, and nationality entered as a fixed factor. We also checked to see whether completing the survey before (T2a) or after (T2b) the World Cup affected fusion by including it in a MANOVA. For posterity, we explored the results by country by splitting the file and calculating test-retest correlations. Finally we tested whether wave affected T2 fusion by using Model 1 in PROCESS<sup>38</sup>.

*Results:* In support of the hypothesis, the results suggested that fusion remained stable, for our Brazilian, English, and Spanish participants, for the 18 months surrounding the 2014 World Cup, including immediately after defeat. The MANOVA suggested a marginal effect for change in fusion over time ( $F = 2.51, p = .083, \text{partial } \eta^2 = .01$ ). There was no interaction between fusion and nationality ( $F = .27, p = .897, \text{partial } \eta^2 = .003$ ). A Tukey HSD post-hoc test indicated a between-subjects effect of nation ( $F = 4.53, p = .012$ ), such that Brazilian fusion was significantly higher over time compared to English ( $MD = .59, SE = .22, p = .020$ ) or Spanish ( $MD = .45, SE = .19, p = .044$ ) fusion. English fusion did not statistically differ from Spanish fusion over time ( $MD = -.14, SE = .21, p = .789$ ).

After including wave in the MANOVA, fusion was found to significantly change over time ( $F = 3.57, p = .029, \text{partial } \eta^2 = .02$ ) such that there was a drop and then an overall slight increase, but there was no interaction between fusion

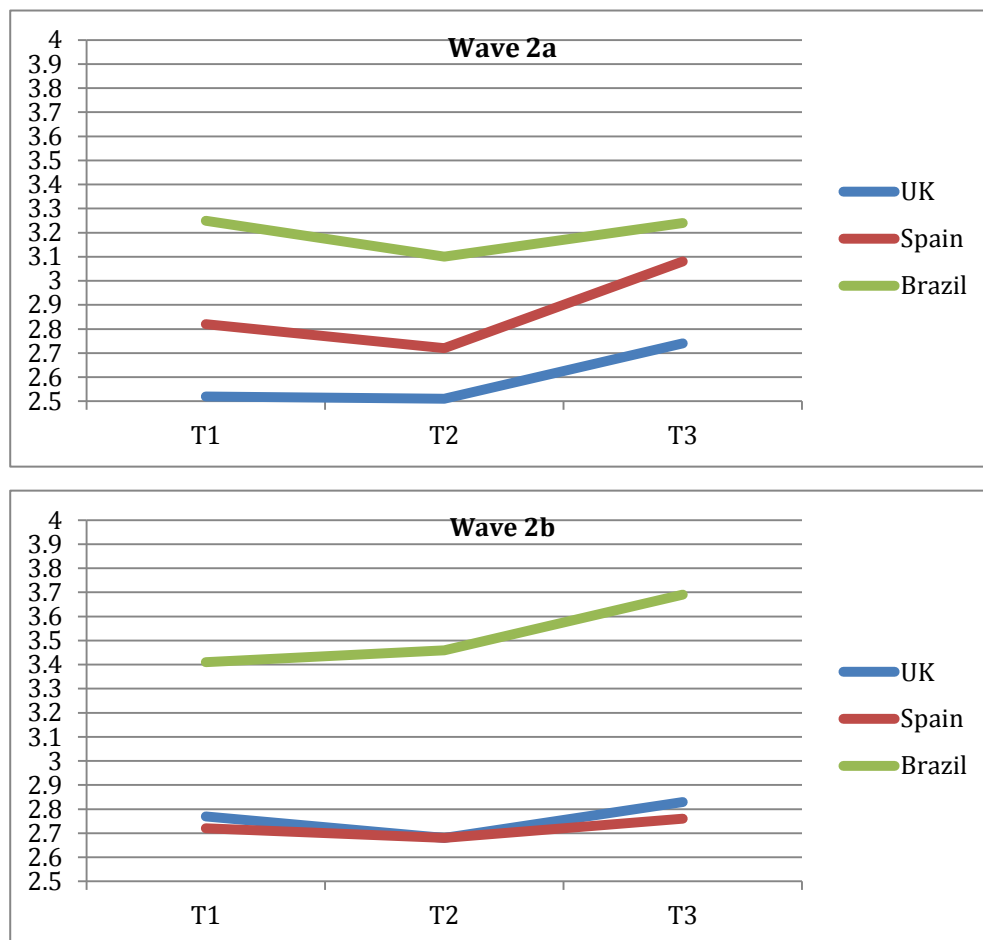
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<sup>38</sup> We re-ran all analyses controlling for identification and found that our results remained robust (Appendix G4). Replacing fusion with identification generally produced similar results.

and nation ( $F = .17, p = .953, \text{partial } \eta^2 = .002$ ), fusion and wave ( $F = 1.46, p = .234, \eta^2 = .007$ ), or fusion, wave and nation ( $F = 1.41, p = .230, \text{partial } \eta^2 = .014$ ) (Fig 6.1). In this model, the between-subjects effect of nation was highly similar to the initial model ( $F = 3.94, p = .021, \text{partial } \eta^2 = .04$ ), but there were no other between-subjects effects. Post-hoc analyses revealed that that Brazilian fusion was also significantly higher in this model over time compared to English ( $MD = .59, SE = .22, p = .020$ ) or Spanish ( $MD = .45, SE = .19, p = .045$ ) fusion. English fusion did not statistically differ from Spanish fusion over time ( $MD = -.14, SE = .21, p = .791$ ).

Fig. 6.1

Mean fusion over time by nation and wave



The test-retest correlation for fusion was respectable across time points (Table 6.3). When splitting the sample by nation, test re-test correlations only dropped below .6 for Brazilian citizens between T1-T2b ( $r(43) = .53, p < .001$ ). There was no evidence for wave, or its interaction with T1 fusion moderating T2 fusion (Table 6.4).

Table 6.3

*Correlations between fusion at different time points by wave (nations collapsed)*

Wave	Time points	Pearson's $r$
A	T1-T2:	$r(260) = .77$
	T2-T3:	$r(138) = .75$
	T1-T3:	$r(140) = .72$
B	T1-T2:	$r(156) = .74$
	T2-T3:	$r(72) = .80$
	T1-T3:	$r(72) = .75$

Note:  $p < .001$  in all cases

Table 6.4

*Interaction model with wave (pre tournament or post exit) and T1 fusion as IVs T2*

*fusion as DV (PROCESS, Model 1)*

Variable	Coefficient	$t$	$p$
Wave (2a or 2b)	.06	0.66	.510
Fusion T1	.71	23.74	<.001*
Interaction	-.07	-1.22	.223

Note:  $R^2 = .58, F(412, 3) = 187.85, p < .001$

\* $p < .05$

## **H2: For some individuals fusion will increase; an effect driven by a sense of 'self-transformativeness'.**

*Analysis:* To test whether self-transformativeness played a role in fusion changing over time we ran a repeated-measures ANOVA with fusion (T2-T3) as the factor and T3 self-transformativeness a covariate. We re-ran this analysis twice more: including wave (2a vs. 2b) as a between-subject factor and by splitting the file by wave. We then plotted the interaction between fusion and self-transformativeness using Model 1 in PROCESS. Finally, we split the sample by nation and re-ran the model to see if there was an interaction in any of the contexts.

*Results:* There was mixed evidence to support the hypothesis. The repeated measure ANOVA suggested that over the course of 12 months (T2 – T3), there was no change in fusion ( $F = .86, p = .356$ ) nor an interaction between fusion and self-transformativeness ( $F = .61, p = .434$ ), though there was a between-subjects effect of self-transformativeness ( $F(208, 1) = 18.68, p < .001, \text{partial } \eta^2 = .08$ ). On re-running the model including wave as a factor we found no change in fusion ( $F = .93, p = .337$ ), no fusion x self-transformativeness interaction ( $F = .59, p = .443$ ), and no fusion x wave interaction fusion ( $F = .08, p = .782$ ). There was a between-subjects effect of self-transformativeness ( $F = 19.03, p < .001, \text{partial } \eta^2 = .08$ ) but no effect of wave ( $F = .86, p = .356, \text{partial } \eta^2 = .01$ ). Even though there was a non-significant interaction, to be thorough, we split the file by wave (2a vs. 2b) and got similar results for both waves, though the fusion x self-transformativeness interaction was stronger for 2b ( $F = 2.91, p = .092, \text{partial } \eta^2 = .04$ ) than 2a ( $F = .12, p = .735, \text{partial } \eta^2 = .01$ ). As this trend was in the

direction that we would predict (self-transformativeness interacting with fusion following the World Cup defeat, rather than before it), we plotted the interaction in Model 1 (Figs 6.2 & 6.3). There was not an interaction effect for either wave 2a ( $b = .05, p = .334$ ) or 2b ( $b = .10, p = .102$ )

Fig. 6.2

*Interaction plot for fusion and self-transformativeness (wave 2a)*

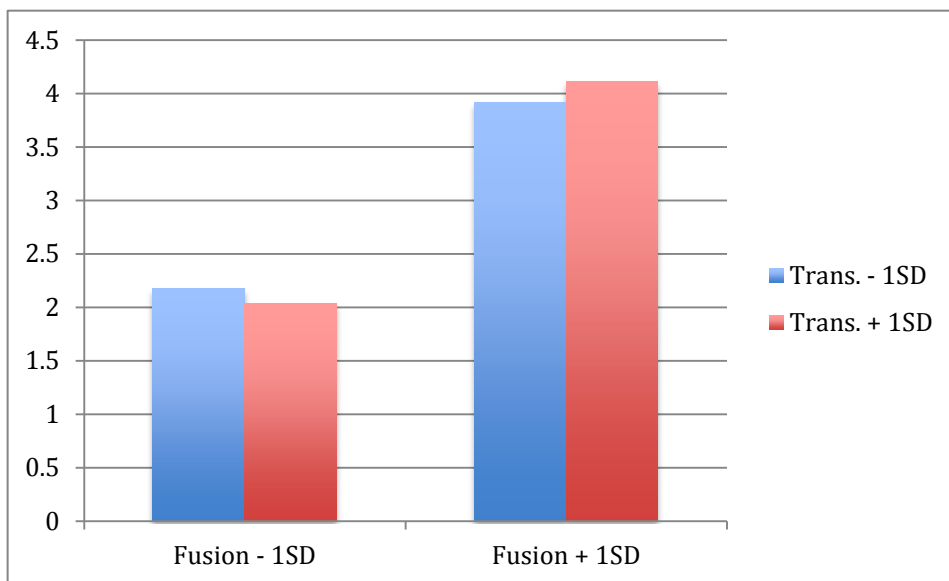
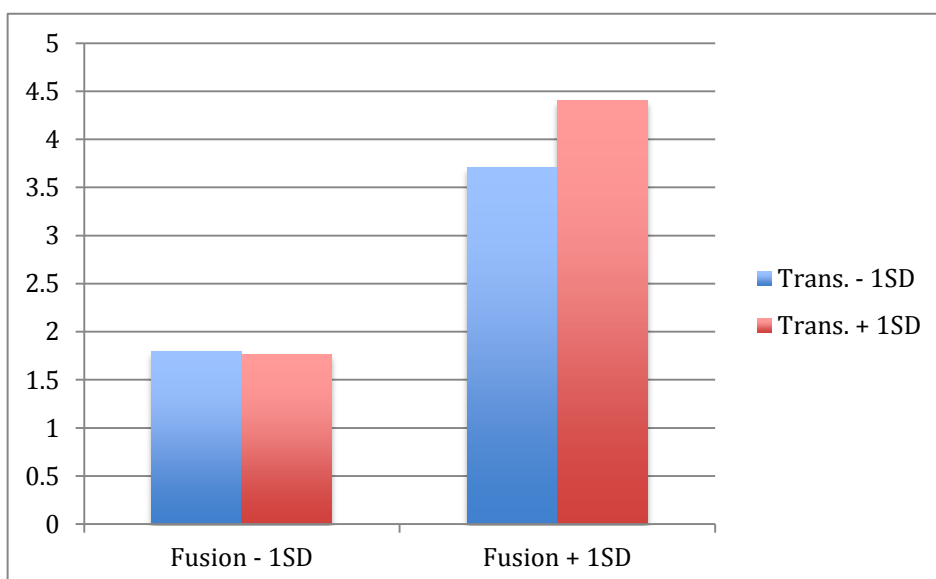


Fig. 6.3

*Interaction plot for fusion and self-transformativeness (wave 2b)*



Finally, on splitting the file by nation, the MANOVA produced an interaction between self-transformativeness and fusion for England only (Table 6.5). We plotted the data using Model 1 ( $b = -.34, p < .001$ ) to show the interaction in a graph (Fig. 6.4). Taken together, this interaction suggests that English participants who felt the most self-transformed by exiting the World Cup also experienced an increase in fusion over the course of 12 months. Questions remain as to why the three nations differed in this result (see 6.5.2).

Table 6.5

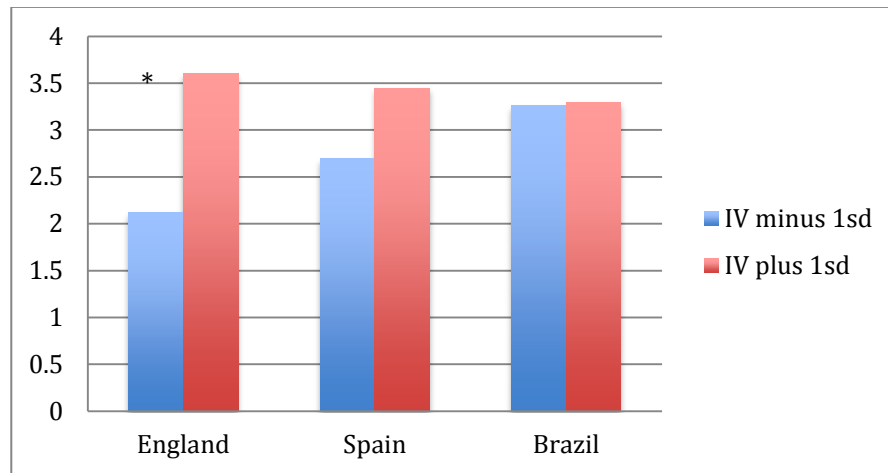
*MANOVA with T2-T3 fusion the facto and self-transformativeness a covariate in England, Spain, and Brazil*

<b>Nation</b>	<b>Variable</b>	<b>DF</b>	<b>F</b>	<b>p</b>
<b>England</b>	Fusion		1.80	.186
	Fusion * SS	1, 47	4.39	.042*
	SS (between-subject)		31.35	<.001*
<b>Spain</b>	Fusion		1.32	.253
	Fusion * SS	1, 84	.00	.999
	SS (between- subject)		5.42	.022*
<b>Brazil</b>	Fusion		.14	.708
	Fusion * SS	1, 73		.540
	SS (between-subject)		.66	.420

\* $p < .05$

Fig. 6.4

*Interaction between self-transformativeness and fusion by nation*



### **H3: Fusion predicts pro-group behaviours**

*Analysis:* To test fusion's effect on pro-group behaviours we ran analyses to examine ingroup bias on the intra-group donations measure and scores on the fight and die scale. We also checked whether defeat in the World Cup would affect these associations. First, we ran a series of linear regressions with fusion as the independent variable and ingroup donation the dependent variable across different time points. To test for the effects of wave and nationality on ingroup donations, we contrasted a multi-linear model, with wave (2a vs. 2b) and T2 fusion as covariates and ingroup donations as the dependent variable, and a hierarchical model that included nationality. We then checked to see if psychological kinship would mediate the relationship between fusion and ingroup donations. Next we split the file by nation and ran linear regressions with fusion as the independent variable and fight and die the dependent variable. Finally we tested to see whether psychological kinship might mediate the relationship between fusion and willingness to fight and die.

## *Results*

Overall, the hypothesis was supported and fusion predicted both ingroup donations and fight and die. However, there were variations in the strength of these associations between nations at different time points. Psychological kinship only mediated the relationship between fusion and fight and die, not ingroup donations.

Ingroup donations: Linear regressions showed that fusion significantly predicted ingroup donations at T1 and T2a (immediately before the World Cup) (Table 6.6). However T2b fusion (immediately after the World Cup) ceased to predict ingroup donations for Spain and Brazil, but remained a significant predictor for England. The MLM showed that fusion significantly predicted ingroup biases,  $F(411) = 29.42, p < .001$ , while wave did not,  $F(411) = 1.91, p = .17, Wald Z = 14.34, p < .001$ . By comparing the -2LL of this model (1383.23) with a hierarchical model that included nationality (1381.98), nationality did not appear to significantly alter the model either. Psychological kinship did not predict ingroup donations at any time point (e.g. at T1,  $b = .02, p = .726$ ) and so was not considered as a mediator.

Willingness to fight and die: Linear regressions showed that fusion strongly predicted fight and die at all time points (Table 6.7). We also found evidence of psychological kinship mediating the relationship between fusion and fight and die at all time points (see Fig. 6.5 for results of the T1 mediation analysis,  $N =$

796). There was no evidence that nation moderated the relationship between fusion and fight and die ( $b = .01, p = .622$ ).

Table 6.6

*Linear regressions with fusion as the IV and donations as the DV by nation and time-point*

Nation	England T1 (6 months before event)	T2a (immediately before)	T2b (immediately after)
<b>England</b>	$R^2 = .07, F(212, 1) = 15.20, b = .29, p < .001^*$	$R^2 = .08, F(49, 1) = 5.45, b = .40, p = .024^*$	$R^2 = .14, F(44, 1) = 7.02, b = .36, p = .011^*$
<b>Spain</b>	$R^2 = .12, F(280, 1) = 38.48, b = .32, p < .001^*$	$R^2 = .10, F(80, 1) = 9.20, b = .31, p = .003^*$	$R^2 = .04, F(65, 1) = 2.54, b = .20, p = .115$
<b>Brazil</b>	$R^2 = .05, F(268, 1) = 15.18, b = .12, p < .001^*$	$R^2 = .05, F(123, 1) = 6.89, b = .23, p = .010^*$	$R^2 = .03, F(38, 1) = .99, b = .25, p = .325$

\* $p < .05$

Table 6.7

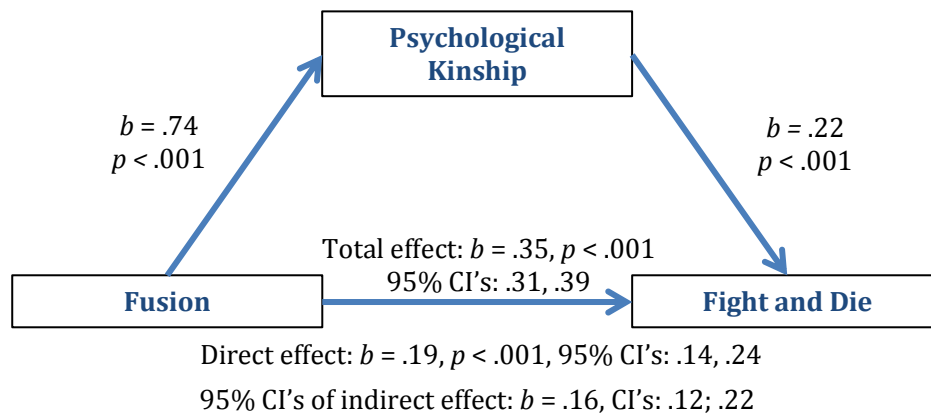
*Linear regressions with fusion as the IV and fight and die as the DV by nation and time-point*

Time point	Nation		
	England	Spain	Brazil
<b>T1</b>	$R^2 = .24, F(1, 222) = 71.38, b = .33, p < .001^*$	$R^2 = .33, F(1, 280) = 134.57, b = .37, p < .001^*$	$R^2 = .23, F(1, 288) = 73.76, b = .35, p < .001^*$
<b>T2a</b>	$R^2 = .19, F(1, 51) = 12.10, b = .24, p < .001^*$	$R^2 = .24, F(1, 80) = 25.63, b = .35, p < .001^*$	$R^2 = .18, F(1, 125) = 27.62, b = .31, p < .001^*$
<b>T2b</b>	$R^2 = .21, F(1, 43) = 11.45, b = .32, p = .002^*$	$R^2 = .12, F(1, 65) = 9.19, b = .23, p = .003^*$	$R^2 = .25, F(1, 41) = 13.41, b = .35, p = .001^*$
<b>T3</b>	$R^2 = .12, F(1, 49) = 6.400, b = .21, p = .015^*$	$R^2 = .31, F(1, 84) = 37.47, b = .37, p < .001^*$	$R^2 = .25, F(1, 77) = 25.99, b = .33, p < .001^*$

\* $p < .05$

Fig. 6.5

*T1 mediation model with fusion the IV, fight & die the DV and psychological kinship the mediator*



#### 6.4.4 Additional exploratory analyses

*Expectations of national team's performance in relation to fusion to nation*

To test the relationship between expectations and fusion, we ran linear regressions by nation. We then ran a repeated-measures ANOVA with fusion as the factor and expectations, psychological kinship, and age as covariates, and gender as a random factor. We then split the file by wave and re-ran the model.

Fusion predicted expectations, such that highly fused individuals had greater expectations of their national team's success (Table 6.8). The repeated-measures ANOVA revealed a change in fusion over time ( $F = 4.10, p = .017$ , partial  $\eta^2 = .02$ ) and no interactions between fusion and expectations, age, and gender. There was an interaction between fusion and psychological kinship ( $F = 11.57, p < .001$ , partial  $\eta^2 = .05$ ). There were also between-subjects effects of expectations ( $F = 14.34, p < .001$ , partial  $\eta^2 = .07$ ) and kinship ( $F = 192.39, p < .001$ , partial  $\eta^2 = .49$ ). After splitting the file by wave, we found that there was no between-subjects effect of expectations for wave 2b, right after the World Cup.

It could be that highly fused fans resultantly experience more dysphoria and/or more dissonance as a result of these high expectations.

Table 6.8

*Linear regressions with fusions as the IV and expectations of winning the World Cup the DV*

<b>Nation</b>	<b>Expectation</b>	
	<b><i>M (SD)</i></b>	<b>Regression</b>
<b>England</b>	2.36 (.93)	$R^2 = .05, F(215,1) = 11.49, b = .16, p = .001^*$
<b>Spain</b>	4.29 (1.13)	$R^2 = .05, F(280,1) = 14.57, b = .18, p < .001^*$
<b>Brazil</b>	4.20 (1.76)	$R^2 = .06, F(279,1) = 17.00, b = .29, p < .001^*$

\* $p < .05$

*Relationship between fusion to one's nation and one's national team*

To compare fusion to nation and fusion to national team we first ran a correlation between the two variables. We then ran paired t-tests for each nation. Fusion to nation and national team correlated highly ( $r(217) = .62, p < .001$ ). However, fusion to nation was significantly higher than fusion to national team for English ( $t(50) = 2.68, p = .010, \text{Cohen's } d = .38$ ), Spanish ( $t(85) = 8.79, p < .001, \text{Cohen's } d = .95$ ), and Brazilian participants ( $t(79) = 9.75, p < .001, \text{Cohen's } d = 1.10$ ) (Table 6.9).

Table 6.9

*Fusion to nation and national team by nationality*

Nationality	Fusion to nation <i>M (SD)</i>	Fusion to national team <i>M (SD)</i>
<b>English</b>	2.78, 1.42	2.35, 1.90
<b>Spanish</b>	2.95, 1.22	2.05, 1.16
<b>Brazilian</b>	3.34, 1.40	1.95, 1.13

## 6.5 Discussion

The main aim of this study was to test how a dysphoric national sporting event might affect fusion to one's nation over time. In this longitudinal study we found that fusion was largely stable over an 18-month period. However for some individuals, experiencing a World Cup defeat at the level of national identity may have been dysphoric enough to promote a fundamental shift in identity that fused personal and group (national) identities.

The next question was whether self-transformativeness might drive changes in fusion. For participants who experienced an increase in fusion, a sense of being transformed by the World Cup helped to explain these changes and there was evidence of an interaction between fusion and self-transformativeness, at least for English participants. This is the first direct evidence of a national sporting event promoting self-transformation. The finding also supports previous research that dysphoric sporting events can transform one's identity long term (Newson et al., 2016).

### **6.5.1 Pro-group outcomes: ingroup donations and fight and die**

Fusion robustly predicted willingness to fight and die for one's nation, an effect mediated by a sense that fellow nationals were like family, as shown in Buhrmester et al. (2015). Ingroup preference (i.e. donations made to an ingroup rather than an outgroup) were also strongly predicted by fusion, but not immediately after experiencing a World Cup defeat. The exception to this was English participants for whom the relationship between fusion and ingroup bias was robust against World Cup defeat. Although fusion to one's nation did not appear to drop immediately after the defeat, it seems that fused people's ingroup preference is slightly diluted following a negative group event (unless perhaps they are accustomed to it as is the case with English participants). Buhrmester et al. (2015) show that highly fused individuals are most likely to help group members in peril following a tragedy, such as the Boston bombings. It could be that extreme helping behaviour goes up, while more mediocre helping behaviours are put on hold. Future research is needed to determine why there was a cultural difference (see 6.5.2) and unpick precisely why associations between ingroup donations and fusion, but not willingness to fight and die, diminish post dysphoria.

Previous research has shown that the relationship between fusion and pro-group outcomes is mediated by psychological kinship (Whitehouse and Lanman, 2014; Buhrmester et al., 2015). As predicted, our fight and die measure replicated this finding. However, the ingroup donations measure was not mediated by psychological kinship. Previous research has tested ingroup donations (Swann et al., 2010b), but not tested for the mediating effects of psychological kinship. Differences in the mediating role played by psychological

kinship may be due to (a) a difference in extremity between the fight and die, and ingroup donations measures, (b) the inclusion of an outgroup option, as well as an ingroup option, and (c) the fact that our measure did not include a 'self' option.

First, while fight and die taps in to group members' extreme needs and correspondingly extreme behaviours, our ingroup donations task did not include any life-threatening situations. For psychological kinship to explain the relationship between fusion and a pro-group behaviour, individuals need to feel that their fellow group members are kin-like and to act on this premise (Whitehouse and Lanman, 2014). Second, previous research has not included an outgroup option in the dependent variable so, though novel, there are no results to compare this outgroup finding with. It could be that the inclusion of an outgroup elevated perceived threat levels, leading to greater ingroup bias. Finally, by leaving out a 'self' option the measure was not personally costly, which seems to be key to fusion driven behaviours. We address this by including an adapted version of Halevy et al.'s (2008) outgroup hostility measure with a 'self' option in Chapter 7. The next section discusses cultural differences relating to fusion, self-transformativeness, and pro-group behaviours.

### **6.5.2 Cultural differences**

We also sought to examine any cultural differences that might unfurl between our three football nations, and try to explain these differences.

#### *Fusion*

Mean fusion was significantly higher in Brazil than England or Spain 6 months prior to the cup and immediately after it. However, immediately before the cup,

Brazilian fusion was only higher than fusion in England, not Spain. All three nations scored equally for fusion 12 months after the cup. These fluctuations in mean fusion may reflect the fact that Brazilian participants experienced a more salient national identity preceding the 2014 World Cup (i.e. at T1).

Hosting the cup means that citizens, especially in a developing nation, witness first-hand the extensive building works, renovations, and plastering of national flags and emphasis on other national symbols (e.g. food or music) across the country. Furthermore, patriotism could be higher in Brazil more generally.

### *Self-transformativeness*

For English participants, there was an interaction effect, such that self-transformativeness predicted changes in fusion. Previous studies on self-transformativeness have only been conducted in the English language (Newson et al., 2016) and it is possible that our translations were poor. The concept of being 'transformed' is certainly quite a specific use of language, but our measure (*I am the exact same person I am today...*) was no more unusual than '*I am one with*', which has been successfully used in other languages, including Spanish (Swann et al., 2009; Buhrmester et al., 2012) and Brazilian Portuguese (Bortolini et al., Under Review). We are confident that the same process of back-translation and use of bilingual translators that we used for the translation of the fusion scale should have prevented poor translations for the self-transformativeness measure. However, there may be cultural differences that account for these variances.

It is plausible that there are disparities between the three nations in terms of the process of self-transformativeness. Although the self-

transformativeness effect was found in England rather than the two Latin-influenced nations, there is no strong reason to suspect that the causal path to fusion would differ between Latin and Anglo cultures. For instance, although Latin Europe (Spain) and Latin America (Brazil) are both noted for scoring low for performance orientation compared to Anglo societies, Latin America is also characterised by low uncertainty avoidance and future orientation, making it a significantly different societal cluster from Latin Europe (Gupta et al., 2002).

More convincingly, this cultural variation may relate to the time it takes for events to become significantly self-defining (Xygalatas et al., 2013). It could be that English participants, who are most familiar with World Cup defeats, were poised and ready for defeat and, as such, required less time to become transformed by the event. In contrast, Spanish and Brazilian participants, cultures with recent histories of success, may have been more shocked by the defeat and required more time to process the memory, reflect on it and become transformed. Equally, they may have peaked sooner than our measure was able to detect. Future studies are needed to determine the duration of this processing. Chapter 7 makes a first step by including a self-transformative measure one month after exiting the World Cup.

### *Pro-group behaviours*

Fusion successfully predicted ingroup donations and willingness to fight and die for one's nation. In the case of fight and die, this effect was mediated by psychological kinship in all contexts. For ingroup donations, fusion appeared to lose its power to affect ingroup bias in the wake of the 'national disasters' that were Spain and Brazil's shock exits from the 2014 World Cup. England, with a proven track record of humiliating World Cup defeats, appeared to be more

resilient to the loss and the relationship between fusion and ingroup donations remained robust.

### **6.5.3 Implications**

In support of the literature, over the course of 18 months this large *N* study has shown that fusion to one's nation is truly resilient in the three study nations. Overall this was true even immediately after losing the World Cup, which was a humiliating national defeat, especially for Brazil. However, for some individuals, fusion actually increased following the dysphoric events of the World Cup. For changes in fusion to be causally linked to the event we would need the following conditions to be met: (a) participants perceived the World Cup to be about national identity; (b) participants perceived their exit from the World Cup as dysphoric; and (c) participants internalised the event and experienced it as personally self-shaping or self-transformative. In this chapter we have provided preliminary evidence of this process using a natural population and a natural laboratory (citizens experiencing World Cup events), which can be used to help design future studies. Future controlled studies would need to include measures of affect to quantify dysphoria more accurately.

For the first time, we tested fusion to national identity using an international football event. This chapter thus speaks to the potential of football for analysing social identity beyond the football fan cultures that are typically associated with football, i.e. national or ethnic identities. Current projects run by organisations such as Football 4 Peace (University of Brighton) use football as a tool to foster social cohesion among youths in post-conflict zones (including Israel, Jordan, South Korea, and Northern Ireland) (Sugden, 2006; Liebmann and Rookwood, 2007).

We have also provided evidence of a national sporting event promoting self-transformation, as well as support for Whitehouse's modes theory. Importantly, the relatively weak findings concerning self-transformativeness in this study may reflect the weak association between national football and national identity. This is perhaps indicative of the jovial nature of World Cup games. In contrast, football that relates to more relational, as opposed to symbolic, groups (e.g. league level football or the football communities established in the Football 4 Peace programmes) may profoundly evince further self-defining or events, leading to stronger associations with identity fusion.

Finally, this chapter compared three nations – two European, and one Latin American. We observed some cultural differences, e.g. higher base fusion rates in Brazil and associations between self-transformativeness and fusion in England, but not in Spain and Brazil. More research is needed to quantify these differences in a meaningful way – would these cultural differences be found consistently in repeat designs? If so, what differences exist between these cultures to promote differences in cognition and social identities? The benefit of using a tri-cultural study, including a developing nation, is that this study is a step out of the WEIRD parameters outlined by Henrich et al. (2010). The next chapter extends this further and aims towards a WILD framework (participants that are Worldly, Local, Independent, and Distinctive) by conducting fieldwork with Brazilian and English supporters at live World Cup matches in Brazil.

## 6.6 Limitations

### *Sampling, attrition, and design*

There were a number of design issues that limit the inferences that can be made from this study. First, although it was beneficial to include a T1 measure before the World Cup to test base fusion, there were substantial problems with attrition. This may have been due to: the gap between points of data collection (6 months T1-T2 and 12 months T2-T3); participants being disincentivised by the first survey; or the World Cup event proving to be too much of a distraction at T2 and too painful to recall at T3. A comments box at the end of the survey could have helped to identify this problem for future designs. Our key variables did not appear to differ between participants who completed only T1, T1 and T2, or all three time points, which is encouraging. However, all results should be interpreted with caution.

In addition, this study may have suffered from a selection bias and we did not use randomised samples. We made use of collaborators' contacts and snowballing techniques to generate large *Ns* rapidly. To obtain the T1 sample six months prior to the World Cup, we released the survey in January 2014, only four months after commencing my doctorate, so there was relatively little time to establish new networks of participants. The English sample relied less on student samples and, as a result may have been less-WEIRD (in ways not measured by our demographic measures) providing the fusion x self-transformativeness result that supported the dysphoric pathway to fusion hypothesis. Future work should obtain citizens in a more systematic manner to reduce potential sampling biases.

It would have been beneficial to include a euphoric (victory) condition. A larger-scale study could have monitored all of the major teams (which would have included the ultimate winners, Germany), though we did not have a German collaborator when designing the study. By including a euphoric condition we would be able to contrast euphoric and dysphoric events and further contribute to the literature on the dysphoric pathway to fusion. We address this in the next chapter by testing two euphoric matches and two dysphoric matches.

Finally, this study does not rule out a dissonance explanation for increases in fusion, i.e. 'we may not be much good at football, but we have other things to be proud of'. Where self-transformativeness did not interact with fusion (i.e. in Spain and Brazil), it would have been interesting to have a measure of dissonance resolution strategies to test whether these were being utilised. However, the dysphoric pathway to fusion was the primary objective of this thesis so dissonance was not explored in this study.

### *Measures*

We included a measure of self-transformativeness at T3, but not at T2. Ideally, we would have introduced this measure at T2(b) to see if participants felt transformed by the event immediately after it, and whether the relationship between transformativeness and fusion increased over time. Future studies should also include measures of reflection to verify Jong et al.'s finding (2015) that reflection predicts fusion, and also to test the relationship between reflection and transformativeness. The ingroup donations measure could also be improved by testing (a) personally costly behaviour (by including a 'self' option)

and (b) outgroup hostility (by including a 'spite' option, as per Halevy et al., 2008). We include such a measure in Chapter 7.

We found that fusion to nation was largely stable, in support of the literature (Swann et al., 2012; Fredman et al., 2015). While fusion theory asserts that *trait* fusion is largely irrevocable, *state* fusion is a more variable construct. This study was designed in 2014, before Buhrmester and Swann (2015) referred to state fusion as 'waxing and waning'. Future studies of this kind could test whether state fusion to nation increases immediately following a World Cup or other mega-sporting event. Modes theory would predict that for highly fused individuals, a dysphoric exit may act as a prime, only strengthening their tie to the group, albeit temporarily (Whitehouse, 1996; Richert et al., 2005). In contrast, weakly fused individuals will remain stable, or even drop slightly, in a behaviour that has been described as CORF-ing (cutting off reflected failure) (Wann and Branscombe, 1990). For World Cup events to affect fusion levels, the World Cup must be perceived by spectators as symbolising national identity and measures to test this should be included in future studies.

Finally, we did not include an explicit measure of dysphoria. We assumed that exiting the World Cup would be dysphoric for some of our participants. Although this is likely to be true, particularly given the extraordinarily poor results obtained by all three teams, a quantifiable and ideally continuous score of dysphoria could have helped to determine whether the differences between T2a and T2b, and the relationship between transformativeness and fusion were really due to the dysphoria surrounding the World Cup. To achieve this, a simple measure of affect could have been included, e.g. an affect grid (Russell et al., 1989) or the more widely used PANAS scale (Watson et al., 1988).

### *Evaluating the limitations of Chapter 6*

An obvious and major limitation of this chapter is attrition. Any inferences made from the data must be treated cautiously but, as our analyses suggested that attrition did not bias the sample, the data can be used as the impetus for future research. We found cultural differences in self-transformativeness and its relationship with fusion, which may be explained by our convenience samples. On the other hand, Brazil scored consistently higher than England and Spain for fusion measures and may be indicative of broader cultural differences regarding fusion. Indeed, Brazilian participants score higher for fusion than English participants in Chapter 7. Further cross-cultural work expanding on this and work by Bortolini et al. (under review) would be needed to clarify this. This chapter reflects a need for euphoric and dysphoric experiences to be more accurately measured and further experimentally contrasted to better validate the dysphoric pathway to fusion hypothesis (Whitehouse, 2004; Richert et al., 2005). Similarly, and as called for by Swann & Buhrmester (2015), more research is also needed to determine the significance of state fusion, as opposed to trait fusion, and how this relates to modes theory.

### **Conclusions**

This chapter has provided further support for the irrevocability principle of fusion to one's categorical ties. However, we also found evidence that, for some individuals, fusion to one's nation does change over time. Indeed there was a general trend to increase over 18 months. For English participants, this was related to a self-transformative national sporting loss. The association was relatively weak in the study reported in this chapter and there was substantial cultural variation that needs to be quantitatively explained in future studies.

Chapter 7 tackles this by including a self-transformative measure after one month, rather than one year. We also investigated two pro-group behaviours: ingroup donations and the endorsement of extreme pro-group actions (fighting and dying for one's group). We found evidence that fusion predicts ingroup bias, but this association was not resilient to World Cup defeat in Spain or Brazil. We found stronger evidence that fusion predicts willingness to fight and die for one's nation, even after dysphoric World Cup events.

This study, though survey based, provides impetus for future research to develop methods for analysing the effects of national sporting events on social action. However, national identity is only symbolically related to the World Cup. We sought to address this in a second, field-based study, which targeted World Cup supporters directly. As such, the next chapter tests fusion to national team at live World Cup events.

## Chapter 7

### Fusion to National Team and the 2014 World Cup

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Attending football matches in person or experiencing them outside the stadium in raucous fan zones (attracting just over 5 million fans at the 2014 World Cup) (FIFA, 2014a), produces intense shared emotions. Emotional triggers include unique ritualised chants, stamping, and inter-group violence (Giulianotti, 1995; King, 2002; Stroeken, 2002; King, 2003; Brown, 2007; Stone, 2007; Weed, 2007; Pearson, 2012). For the months and even years preceding the World Cup, Brazil was inundated with representations of its own culture, from both home and abroad. These images largely pertained to nation: the national flag; civilians uniting; the global football brand. This atmosphere heightened multiple social identities for Brazilians – nationality, local identities, and football fan identities.

In Chapter 4 we found mediational evidence of the role dysphoria plays between fusion and team fate, i.e. fans of the least successful teams tend to be most highly fused due to the emotional difficulty and intensity of supporting their team. In the present chapter we extend this finding with a longitudinal, natural experiment based on the experience of one's national team losing the World Cup. We also provide tentative evidence that physiological arousal also contributes to changes in identity fusion. Building on the findings of Chapters 5 and 6, we also investigate the role of self-transformativeness, following the World Cup, in fusing supporters to their national team and fellow fans. We use this new fusion target because although national team identity is in some ways an abstraction of a symbolic identity, i.e. nationality, it also rides on the strength of a generally more prominent, tribal identity among football supporters – club

identity. Finally, we experimentally test whether fused individuals exhibit more outgroup hostility than non-fused individuals.

In previous chapters, the studies utilised online methodologies and psychometric and behavioural measures. In the present chapter, we use a field methodology and approach football fans in the field at live World Cup events in Brazil. Though there are challenges to conducting field work, the merits of field sites for research into cultural evolution cannot be dismissed for their higher levels of ecological validity compared to laboratory studies (Wilson and Whitehouse, 2016), access to hard to reach populations (see Appendix A), and generating data that is rich in variation to help move theory forwards (Newson, 2016). As with Chapter 6, the present chapter is longitudinal in design, though the three time points were completed within a month of the World Cup, rather than over the course of 18 months as in the previous chapter. This gives us an opportunity to contrast the development of self-transformativeness over a shorter timeframe across cultures.

## **7.1 The World Cup as a field site**

As the literature review in Chapter 6 showed, the realm of international football provides a rich research ground (Armstrong and Giulianotti, 1997). For many, football is at the heart of the national spirit. There have been attempts to explain this both ultimately and proximately (Tinbergen, 1963). Ultimate or distal explanations refer to the underlying forces acting on the trait of interest; in biology this force is usually evolution. Participation in football events has been explained under such terms, e.g. as evolved tribal instincts (Morris, 1981; Winegard and Deaner, 2010). Proximate explanations on the other hand concern the *mechanisms* behind the behaviour, e.g. football behaviours take place via the

fluctuation of testosterone and cortisol production (van der Meij et al., 2012). Previous research has identified that one can be highly fused with one's local sport club (Newson et al., 2016; Bortolini et al., Under Review) and with one's nation (Swann et al., 2009; Gómez et al., 2011), indeed Chapters 4, 5, and 6 have investigated these group alignments. In this chapter, we examine fusion to national team for the first time. League and national football differ along a number of parameters that we now consider in turn: relational and categorical ties, tribal identities, shared histories, and engagement with live matches.

### **7.1.1 Connecting groups via shared experiences**

#### *Relational and categorical ties*

In the world of football, there is an implicit connection between group and place (Lever, 1983; Giulianotti, 2002). Chapters 4 and 5 focused on league level games; this connection is largely relational in nature, at least in our studies, which explicitly requested participants to concentrate on their clubs, including their fellow fans. Fans of the same team may be from the same town or city (or at least have family who are from that region) and they are likely to have experienced significant team events in the same physical space, i.e. the stadium. They will have witnessed many of their peers experience the same club events that they themselves have been transformed by, even without experiencing these transformative experiences with *all* of the fans of their team individually. While league level support may be broadly relational, national games are symbolic and evince categorical ties. Categorical ties describe when one relates to anonymous members of the same social category who share archetypal beliefs, values, and

practices of the group (Tajfel and Turner, 1979a; Whitehouse and Lanman, 2014).

Categorical ties are a hallmark of 'imagined communities' (Anderson, 1983; Whitehouse, 2004; Whitehouse and Hodder, 2010) in which individuals must infer that they have shared transformative experiences with others. Chapter 6 found that categorical ties to 'nation' remained stable following loss in the 2014 World Cup. In the present chapter we bring the previous chapters together by examining whether fusion to a more relational target concerning national football (national team and fellow fans) increases following loss at the World Cup. By using a longitudinal design, we are able to track this change over time, rather than retrospectively (as in Chapters 4 and 5).

For both England and Brazil, national games express cultural and national identities through the ritualised display of national flags, body adornment, and the congregation (and segregation) of national communities at international events (Dunning, 2000; Natali, 2007; Sullivan, 2014). Although both league and national football involve categorical ties with anonymous group members, national football is conceptually different from relational, i.e. more 'tribal' (Morris, 1981), league football. Indeed, previous researchers have argued that club football is superior for most fans as compared to national football (Hart, 2015). As with national identity, national football identity is largely symbolic and works on extended ties or 'imagined communities' (Anderson, 1983). In contrast, league football tends to involve personal autobiographies and shared histories with individuals whom the individual has directly experienced the same events with. While these groups based on relational ties may go on to watch World Cup games together, they do so as part of a larger, national group,

rather than the smaller territorial groups that watch league football, in which they tend to pit themselves against rival groups in neighbouring homes or pubs.

National team identity is in some ways an abstraction of a symbolic identity, i.e. nationality. In the cases of Brazil and England, national team identity also rides on the strength of a generally more prominent, tribal identity among football supporters – club identity (see 3.2.3). As shown in Chapter 6, fusion to nation was higher than fusion to national team for English, Spanish, and Brazilian participants. However, with football as a vehicle for the enactment of national identity citizens have an opportunity to engage (or, importantly, dis-engage) with the group.

#### *The intensity of live matches*

World Cup events involve the activation of allegiances both to nation and to football. Journeys abroad to attend matches have been likened to pilgrimages because fans depart normality, even leaving their jobs and selling their assets, and congregate en masse (Giulianotti, 2012; Montague, 2012) in a state of heightened emotion (Giulianotti, 1995). Estimates for the number of England supporters travelling to Brazil for the World Cup range from 20,000 from governmental sources (FCO and Simmonds, 2014) to around 60,000 from FIFA (FIFA, 2014b). Far more Brazilians attended live events than English supporters: according to FIFA, Brazilians bought over 1.3 million World Cup tickets (around 60% of the total number sold). Though many of these would have been re-sold to tourists for a profit in the days preceding the games, an even greater number of Brazilian supporters surrounded stadia and filled Fan Fest sites on match days.

Live international football is an emotionally intense experience for football fans who cry with joy or sadness (Sullivan, 2014), comfort eat following a defeat (Cornil and Chandon, 2013), and are more likely to experience heart attacks on match days (Carroll et al., 2002; Kirkup and Merrick, 2003). Football is watched in stadia, in the home, in communal spaces and, increasingly, on handheld devices, which means that fans can engage in events wherever their Internet connection permits (see 3.2.5). However, some of the most extravagant displays of emotion are to be observed at matches, whether in stadia or at community events (i.e. fan fest sites for World Cup games).

By committing to attend a match, possibly thousands of miles away, and congregate with thousands or tens of thousands of other supporters, individuals take part in a shared experience. Both English and Brazilian anthropologists of football have noted the value of the 'communal spaces' that football creates (Lever, 1983; Lever, 1995; Giulianotti, 2002; Weed, 2007). In relation to the research presented thus far in the thesis, we suggest that sharing the transformative experiences of high intensity live matches with fellow fans is one of the principal drivers of fusion in football. These events are subjective experiences so we are likely to be individual differences in fusion patterns in this longitudinal design. What drives these individual changes?

A body of SIT research suggests that when an individual is weakly aligned to their group and experiences a vicarious defeat, they're likely to distance themselves from the group or team – a response that has been described as 'cutting off reflected failure' or CORFing (Wann and Branscombe, 1990; Ellemers et al., 1997; Campbell Jr et al., 2004; Jones et al., 2012). While CORFing behaviours may explain how some fans behave, this theory does not explain why

individuals persist with groups that cause personal suffering (e.g. the poorly performing teams in Chapter 4) or how negative group experiences can increase loyalty via fusion (in Chapter 5). Importantly, the participants in SIT studies tend to be university undergraduates and conform to WEIRD demographics so the these samples may not include die-hard, fused fans (see 2.3.2 and 3.2.1).

Building on the finding that for English individuals who found losing the 2014 World Cup the most self-transformative were most likely to increase in fusion to their nation in Chapter 6, here we propose that a sense of self-transformativeness following the World Cup will also lead to increases in fusion to one's national team. Many of the supporters attending World Cup events presumably start out with relatively high fusion levels compared to the rest of the nation (which includes those dis-interested or who actively dislike the World Cup). There was good reason to include these highly fused participants in the present study, rather than just focus on the individuals who started out with low fusion scores and had the most scope to increase. Prior to this study (conducted 2014) we did not know whether experiencing a national loss would cause fusion levels to (a) drop, e.g. as a result of CORF-ing strategies, (b) increase, as predicted by the dysphoric pathway to fusion, or (c) remain stable due to the event not being sufficiently imagistic for the target group, as in Chapter 6. We therefore needed variability in the sample, rather than just participants who scored low for fusion.

In contrast to CORF-ing theories, modes theory would predict that for some individuals, the pain of the defeat may be so acute that it becomes a personally defining, transformative experience that, if shared with others, increases fusion to the group (Whitehouse, 1996; Newson et al., 2016;

Whitehouse et al., 2017). In the present chapter, we propose that for some fans, fusion with one's national team will increase following a dysphoric loss and that this will be associated with a sense of being 'transformed' by the shared event. A related area, which could drive individual differences in fusion changes, concerns arousal. The next section evaluates ways of measuring dysphoria in terms of affective and physiological arousal. Could physiological measures better inform our understandings of the relationship between arousal and identity fusion?

### **7.1.2 Measuring emotional arousal**

The theory behind the shared dysphoria pathway to fusion begins with experiences so intense that they transform the autobiographical self. Affective arousal can be measured using the positive and negative affect scale (PANAS) (Watson et al., 1988). However, this measure requires participants to process a number of words, some of which could be complex for some participants, making it unsuitable for field experiments during live events. Another option is to use an affect grid, whereby participants select the point on the grid which best represents their current emotional state (Russell et al., 1989). This provides more subtle aspects of subjective emotional experience and may be able to measure dysphoria more accurately. However, the grid is not necessarily intuitive to participants, especially those unfamiliar with psychological experiments, so although it is quicker to administer than the PANAS, it may require too much explication to be useful in field experiments.

As Fischer et al. (2014) describe in their study on fire-walking in Mauritius, measuring self-reports of affect in a sacred and high-intensity ritual with a semi-literate (or in our case semi-sober) population is a challenge.

Fischer et al. selected two terms for affect best suited to their study following piloting and discussion groups; 'happiness' and 'fatigue', which were assessed using those words on a single item scale. This has the benefit of being simple as well as directly tapping in to what the researchers were most interested in. In the present study, we used a similar instrument following the World Cup to ask participants how euphoric and dysphoric they perceived the event to be.

In Chapter 5, we found that both euphoric and dysphoric shared events, when seen as highly self-transform, can lead to strong levels of fusion and group loyalty. The impact that euphoric experiences have on shaping the individual and forging lifelong bonds to their group may not be surprising (Cohen and Hoberman, 1983; Bohanek et al., 2005), but the finding that dysphoria can also transform individuals and bind them to their group is relatively recent (Jong et al, 2015). In line with Chapter 5, we propose that a sense of being transformed by an event can follow both euphoric and dysphoric events if they are emotionally arousing enough. However, dysphoric experiences may be more likely to produce the flashbulb memories associated with imagistic experiences (Scott and Ponsoda, 1996; Conway, 2013), which may help to explain the higher levels of fusion we found in fans of unsuccessful teams compared to fans of successful teams in Chapter 4.

### *Physiological arousal*

In addition to self-reported measures of emotion, physiological arousal can be recorded relatively simply during live events to provide a continuous measure. We sought to include these exploratory measures, which have not yet been tested in relation to fusion, as a supplementary way of measuring emotional arousal. As physiological arousal reduces information processing capacities, a

simpler form of group categorisation may take place during high intensity group events (Kim and Baron, 1988; Branscombe and Wann, 1992). Previous research has shown that fusion, not identification, moderates the tendency for increased pro-social behaviours under conditions of heightened arousal (Swann et al., 2010b) but it is not yet clear whether arousal may act as a catalyst for long-term group alignment. In this section, we present three ways of measuring physiological arousal that are used in this study: heart rate, respiratory sinus arrhythmia (RSA), and cortisol production. Such measures can reveal fluctuations over a time period (e.g. before, during, and after a event). This gives researchers the advantage of a measure that goes beyond self-reports and minimizes interfering with the participant's activities during natural experiments.

In sport, rises in heart rate due to psychological stress from watching games is linked to an increased risk of cardiovascular events (Zimmerman et al., 2010). Multiple studies have found increased rates of heart attacks for national and league level football, so we can be confident that heart rate increases during games (Carroll et al., 2002; Kirkup and Merrick, 2003). How could this measure of (psychologically-induced) physiological stress inform studies on the dysphoric pathway to fusion?

Zimmerman et al. (2010) found no significant differences in heart rate during American football and baseball games, compared with baseline heart rate. However, the authors did not compare win and loss outcomes, which may have been informative. More work is required to determine heart rate's response to team loss or victory. Focusing on physiological measures, in 2014, Fischer and colleagues' naturalistic fire walking study provided broad support

for a collective effervescence hypothesis: they found that ritual participation linearly predicted increased heart rate. We include an exploratory measure of heart rate in this study, with the prediction that increased heart rate over the course of a match will be indicative of elevated arousal (self-reported affect), and that this will predict changes in fusion over time.<sup>39</sup> Furthermore, as dysphoric (loss) conditions are thought to induce the greatest levels of social stress, we would predict a stronger heart rate : fusion association under these circumstances.

As this study includes physiological measures for exploratory purposes, we include multiple measures to test physiological arousal, with the hope that at least one of them can be accurately used to test arousal relating to the dysphoric pathway to fusion in the future. Past studies have showed that while heart rate is influenced by both parasympathetic and sympathetic systems, RSA is influenced by the parasympathetic system (Berntson, 1997; Porges, 2007). RSA is often used as an indirect measure of vagal tone, which plays a continuous role in heart rate, as well as being implicated in regulating emotional and social functions (Porges, 2001). In laboratory conditions, higher RSA scores are associated with the experience and expression of negative emotions (Butler et al., 2006). We predict that RSA will also predict changes in fusion over time and that dysphoric (loss) conditions will induce the greatest levels of social stress, hence the greatest RSA : fusion associations.

Another way to analyse emotional arousal physiologically is with salivary cortisol analyses. The hormone cortisol has many functions, but for studies into dysphoria and social cohesion, its role in stress-regulatory functions is most

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<sup>39</sup> For details on how we recorded and analysed the physiological measures, please refer to the 'Measures: Physiological' section of 7.3

relevant, especially when related to competitive encounters (van der Meij et al., 2012). The relationship between cortisol production and stress regulation in competitive situations is best explained by social self-preservation theory, which explains the response in terms of threatened social status or identity (Dickerson and Kemeny, 2004; van der Meij et al., 2012).

In a study of 50 Spanish fans watching Spain in the 2010 World Cup finals, van der Meij et al. (2012) found that cortisol (and testosterone) levels were higher during the cup day than on a control day. However, cortisol did not rise after Spain's victory, suggesting that while the game was stressful, physiological stress plateaued or started to decrease following a vicarious victory. Though promising for cortisol research, der Meij et al.'s study points to the challenges of using such measures in the field as they did not control for women's reproductive cycles which causes cortisol to fluctuate (Kirschbaum et al., 1999), heavy smokers (Kirschbaum and Hellhammer, 1994) or fully control food and drink consumption (Badrick et al., 2007; Kudielka et al., 2009). These are issues that should limit inferences made from their study. Despite the challenges, cortisol production is also included in this study with the prediction that increased cortisol production will be associated with a rise in fusion, particularly under more socially stressful loss conditions.

To test whether physiological arousal resulting from watching live World Cup games correlated with fusion, or could even increase it, we tested heart rate variability (HRV includes heart rate and RSA) and cortisol production before, during, and after live games. The next section discusses outgroup hostility, which is the final strand of the present study.

### **7.1.3 Outgroup hostility: a consequence of identity fusion?**

As discussed in Chapter 2, previous experimental work into fusion has focused on ingroup biases over outgroup hostility (Swann et al., 2010a; Gómez et al., 2011; Whitehouse et al., 2014; Buhrmester et al., 2015; Swann et al., 2015; Bortolini et al., Under Review). However, field studies in combative zones indicate that the forms of extreme pro-group behaviours associated with fusion often translate into action that is implicitly hostile toward outgroups (Sheikh et al., 2014; Whitehouse et al., 2014; Sheikh et al., 2016). In this thesis, Chapter 4 showed that fusion predicted self-sacrificial behaviour in a trolley dilemma, Chapter 5 showed that fusion predicted club loyalty, and Chapter 6 showed that fusion predicted both a bias to donate money to the ingroup and willingness to fight and die for the group among English, Spanish, and Brazilian citizens. The present chapter includes a measure to test the relationship between fusion and outgroup hostility specifically, a topic not considered in earlier chapters. Are highly fused individuals willing to endorse outgroup hostility?

To distinguish altruistic pro-group sentiments from outgroup hostility, Halevy et al. designed the intergroup prisoner's dilemma-maximising difference game (IPD-MD) (Halevy et al., 2008; Halevy et al., 2012). In this game participants are given the choice between a 'self' pool, an 'ingroup' pool, and an 'outgroup harm' pool (which detracts funds from the outgroup pool, while raising the value of the ingroup pool). The students in Halevy et al.'s experiments tended to donate to the ingroup pool, an effect that was increased by intragroup communication. This study was replicated with German football fans, but with more participants donating to the hostility pool than in the original study (an increase from 4-6% to 23%) (Weisel and Böhm, 2015). This may reflect the

value of using natural groups with emotional and pre-formed ideals about their in- and outgroups. Using the IPD-MD paradigm, we tested whether fusion would predict personally costly outgroup hostility among Brazilian and English football supporters following the World Cup. We thus extend the current literature by examining the verbal fusion measure and the IPD-MD together in a natural population following a group defeat.

## 7.2 Hypotheses

H1: Fusion to a more relational group (national team and fellow fans) increases following a national sporting disaster.

H2: Self-transformativeness predicts individual increases in fusion.

H3: Emotional arousal predicts changes in fusion:

- a. Self-reported affective arousal, i.e. dysphoric arousal, predicts increased fusion;
- b. Physiological measures, i.e. fluctuations in heart rate, cortisol production, and RSA, during the event predict increased fusion.

H4: Fusion predicts personally costly outgroup hostility.

## 7.3 Methods

We collected data at live World Cup events in both win and loss conditions and utilised two field sites and a quasi-laboratory. English ( $N = 61$ , 5 females;  $M$  age = 36.71,  $SD = 2.77$ ) and Brazilian ( $N = 415$ , 218 females;  $M = 33.85$ ,  $SD = 1.75$ ) football supporters completed the survey. Where necessary, Brazilian

psychometric measures were translated into Brazilian Portuguese by three English - Brazilian Portuguese bilingual speakers. They were then back translated and checked for validity by a native English speaker.

### *Locations*

The majority of supporters were approached at a popular FIFA-managed Fan-Fest site and were offered a chance to win a lotto worth R\$400 for taking part (see Appendix H1 for images of field sites). We also set up a field laboratory near a commercial district of the city of Natal, North-East Brazil. These participants were recruited through a combination of advertising (local universities, hostels and shopping districts) and a snowball technique, i.e. through social media and WhatsApp groups that are highly popular in Brazil. These participants were further incentivised to join us for World Cup games with the offer of a high-quality live screening of the event in a nice locale with refreshments. Finally, English fans were approached directly in the stadium for their match against Costa Rica and offered the chance to win £100 in a lotto (equivalent prize).

### *Win and loss conditions*

Our 'win' (euphoric) games included Brazilian wins against Chile and Colombia – local rivals that enabled them to progress through the qualifying stages of the World Cup tournament. We also collected data during two games that were extremely negative for our target supporters. First, we collected data from the England x Costa Rica match, which England lost, meaning they were to leave the tournament having not won a single match. Second, we collected data at Fan-Fest sites and in our field lab for the Brazil x Germany semi-final, in which the hosts lost 1-7; their worst national defeat since 1920 (see 6.1).

The first wave of data (T1) was collected immediately before kick-off (no longer than 20 minutes in advance). A day later (T2), the same participants were contacted via email and invited to complete online questionnaires. For the loss condition, participants from T1 were also contacted a month (T3) after the event. T3 was not possible for those in euphoric conditions due to interference from the dysphoric semi-final. Contrasts between win and loss conditions are thus only available for Brazilian participants up to a day following matches.

### *Measures*

#### Psychometric

As we were working at live events we used reduced scales at T1. Identity fusion was assessed using a reduced 3-item version of the 7-point verbal scale in reference to 'my national team and fellow fans' (Cronbach's alpha > .83 at all four events). These items were:

*The English/Brazilian national team, my fellow fans, and I are one;*

*I make the English/Brazilian national team and my fellow fans strong;*

*The English/Brazilian national team and my fellow fans make me strong.*

We took state measures of identity fusion at T1 and T2 by adding 'Right now' at the start of each item. At T3, we used the full version of the 7-point identity trait fusion scale. Self-transformativeness was assessed with a single 7-point scale (T2, T3): *If I had not experienced supporting England/Brazil in the 2014 World Cup, I would be...the exact same person I am today vs. an entirely different person.*

We also asked participants about their level of affect on a 7-point scale (T2, T3): *Realising that England were going out of the World Cup so early in the*

*group stage / Realising that Brazil had exited the World Cup in the semi-finals was...the worst I've ever felt vs. the best I've ever felt).*

### Behavioural

To test outgroup hostility, participants at T3 were invited to complete a hypothetical scenario adapted from Halevy et al. (2008) in which participants decided which pool to place a £10 token in: a pool for themselves; a pool to help the ingroup (a fund to help fans of one's own country prepare support activities for the next World Cup); or a pool to help the ingroup whilst simultaneously spiting the outgroup (deducting £10 from German fans<sup>40</sup>). This trinomial variable was transformed into a binomial 'hostile' versus 'non-hostile' variable for some analyses.

### Physiological

A sub-sample of Brazilian participants, i.e. participants watching the game at our field laboratory, completed a number of simple physiological measures ( $n = 42$ ). HRV (heart rate variability, including heart rate and RSA) and cortisol production were recorded before the match, at half time, and immediately after (see Fig. H2 in Appendix H). In this way, area under the curve figures for arousal in the sympathetic, parasympathetic and endocrinal systems were generated. All participants were invited to complete cortisol analyses, which were straightforward and simply involved participants chewing on a salivette for one minute. The first willing participants who completed this measure were then invited to take part in the HRV measures, which involved them wearing a belt

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<sup>40</sup> Germany won the World Cup 2014 making them, in theory, an outgroup for both England and Brazil (see 7.5.2 for a discussion of this selection).

around their chests (females were offered a bathroom for privacy) and a polar watch.

To investigate HRV, participants were monitored using Polar watches (RS800CX, Polar Electro, Finland) on three occasions for 5 continuous minutes (before kick-off, during the interval, and immediately after the game), a total of 15 minutes. We then extracted mean heart rate (HR) and respiratory sinus arrhythmia (RSA) using CMetX software (Allen et al., 2007), as R-R intervals had been graphically and manually edited prior to the experiment. For the heart rate and RSA analyses, AUCgs were calculated to estimate the magnitude of the cardiac system as a response to match outcome.

For the cortisol measure we sought high levels of control, more extensive than we have seen in other field studies. The exclusion criteria were: habitual smokers (blunted cortisol response in smokers (Kirschbaum and Hellhammer, 1994)); caffeine intake up to two hours before the experiment (caffeine activates important HPA structures during resting states (Kudielka et al., 2009)); alcohol consumption up to 24 hours before the experiment (increased alcohol consumption is associated with increased cortisol levels (Badrack et al., 2007)); and women using oral contraceptives or who were assessed as being in the follicular phase of their cycle (blunted response in these groups: women in the luteal phase show salivary cortisol stress responses comparable to men's (Kirschbaum et al., 1999)). To control for circadian effects, saliva samples were collected after midday (Pruessner et al., 1997).

Participants provided three saliva samples: 30 minutes before the kick-off, during the interval, and 20 minutes after the game. All samples were stored at -20°C until the assaying day. Before the assay, samples were thawed and

centrifuged at 3000 rpm for 10 minutes to produce a clear supernatant of low viscosity. Free salivary cortisol concentrations were determined in duplicate aliquots using a commercial enzyme-linked immunosorbent assay (ELISA) kit with high sensitivity of 0.012 ng/mL (DRG Instruments, Marburg, Germany). The intra- and inter-assay coefficients of variation were 3.6% and 8%, respectively. To estimate the magnitude of cortisol response, the area under the curve with respect to the baseline (AUC<sub>g</sub>) was calculated. This metric reflects the total cortisol concentration (nmol/L) released in a time interval, considering the first measure as the reference (i.e. as zero).

We obtained small sample sizes for our physiological measures ( $N = 32$  for the biggest condition, more details in 7.4.2). However, unlike social psychology, a sample size of  $N = 15$  per group is not unreasonable in the psychophysiological literature. In his textbook on research statistics, Reinard (2006) explains that small sample sizes, often comprising just  $N = 8$  may be the norm in physiological studies, in part because there is less noise in these results. Regarding socio-physiological studies conducted with sports fans, studies by Hillman et al. (2000) and der Meij (2012) are informative. Hillman et al. (2000) had a total sample of  $N = 40$  sports fans in their laboratory study on EEC responses and heart rate, which they split into three comparison groups ( $N = 14; 12; 14$ ) (Hillman et al., 2000). Der Meij et al.'s (2012) field hormonal study of football fans comprised 50 participants, though of these, 15 participants smoked and 15 drunk alcohol during the match (a further 21 women should technically be excluded as they did not control for menstrual cycle). So, while our physiological results ought to be treated cautiously, there is no reason to abandon them entirely.

## 7.4 Results

### 7.4.1 Attrition and demographic variables

This study suffered from attrition: 69.72% of the sample only completed T1, leaving 15.57% who completed T1 and T2, and 14.71% who completed all three time points. There were several reasons for this. First, we obtained the majority of participants in the field during live events – this was an exceptional circumstance for most participants and they may have agreed to participate under the spirit of a carnival atmosphere. Those participants who were retained are likely to be systematically different from other participants in that they may have had better computer access, be more reliable, be more interested in helping researchers, or be better at delaying gratification (i.e. performing multiple stages of a task before being entered into the prize draw). For further discussion of the limitations associated with attrition in this study see 7.6.

To investigate whether attrition may have affected our results, we coded participants according to which time points they completed ('attrition') and conducted a series of one-way ANOVAs with our key T1 variables as the dependent variables and 'attrition' as the factor (Table 7.1). There was a marginal difference in fusion ( $p = .068$ ) and heart rate scores ( $p = .071$ ) between time points. Tukey HSD post-hoc tests revealed that T1 fusion scores were marginally higher for participants who only completed the first survey ( $MD = .45, SE = .19, p = .058$ ). This suggests that the sample was thus somewhat biased by attrition, as weakly to moderately fused people were oversampled at T2 and T3. However, the participants of most interest to this study were those starting out weakly fused (as they had the most room to increase in fusion). Sections 7.5

and 7.6 discuss why fused people may have chosen to not participate further than T1.

Table 7.1

*One-way ANOVA results contrasting key variables between participants who completed different phases of the study*

Time 1 variable	N, M (SD)		
	Time 1 only	Time 1 and 2	Time 1, 2 and 3
<b>Fusion</b>	327, 5.41 (1.52)	73, 4.96 (1.52)	69, 5.25 (1.43)
	$F(2, 466) = 2.70, p = .068, \text{partial } \eta^2 = .01$		
<b>Heart rate</b>	11, 177.21 (24.30)	10, 183.78 (14.29)	6, 159.36 (17.34)
	$F(2, 24) = 2.96, p = .071, \text{partial } \eta^2 = .20$		
<b>RSA</b>	12, 11.18 (2.42)	10, 11.15 (1.19)	6, 12.03 (.74)
	$F(2, 25) = .56, p = .576, \text{partial } \eta^2 = .04$		
<b>Cortisol</b>	16, 13.74 (10.81)	18, 16.71 (13.40)	7, 22.43 (19.33)
	$F(2, 38) = 1.00, p = .379, \text{partial } \eta^2 = .05$		

### *Demographics*

We found significant but inconsistent patterns between the demographic measures gender and age, and fusion and heart rate (see Appendix H2)<sup>41</sup>. There were also demographical differences between participants who completed different time points and between nations (Appendix H3). We thus controlled for these demographic measures in relevant subsequent analyses (Appendix H4). However, education was only weakly correlated, if at all with other key variables and was dropped from subsequent analyses.

<sup>41</sup> Significant correlations at T1 between: gender and fusion ( $r = .16, p < .001$ ); age and fusion ( $r = .20, p < .001$ ); and gender and heart rate ( $r = .46, p = .015$ ). T2: no significant correlations between demographic and key variables. T3: one significant correlation between gender and fusion ( $r = .30, p = .011$ ).

## 7.4.2 Descriptive statistics

### *Fusion in England and Brazil immediately before, after, and a month after the World Cup*

#### Relationship with other variables

For both nations T2 fusion correlated with self-transformativeness at T2 ( $r = .32$ ,  $p < .001$ ), but T3 fusion and self-transformativeness only marginally correlated ( $r = .21$ ,  $p = .083$ ) (see Appendix H2 for correlation matrix). T2 and T3 fusion also correlated with affect at T2 ( $r = .18$ ,  $p = .038$ ) and T3 ( $r = -.32$ ,  $p = .007$ ) respectively, though the relationship was inverted for the latter such that while euphoric experiences correlated with high fusion in the days following the cup, dysphoric experiences correlated with fusion a month after. Only T2 fusion correlated with heart rate ( $r = .60$ ,  $p = .017$ ). T1 fusion also correlated with cortisol production ( $r = .45$ ,  $p = .004$ ), as did T2 fusion ( $r = .42$ ,  $p = .468$ ). Fusion did not correlate with RSA at any point. Finally, fusion (T3) correlated with outgroup hostility (measured at T3), such that higher fused individuals were more likely to choose the ingroup or outgroup spite options ( $r = .30$ ,  $p = .013$ ).

#### Comparing fusion between the nations

First we compared fusion at each time point using Bonferroni-corrected one-way ANOVAs (Table 7.2). Fusion was significantly higher at T1 ( $F(467, 1) = 10.06$ ,  $p = .002$ , partial  $\eta^2 = .02$ ) for Brazil ( $M = 5.40$ ,  $SD = 1.51$ ) than for England ( $M = 4.75$ ,  $SD = 1.43$ ), but there were no significant differences between the nations at T2 ( $p = .798$ , partial  $\eta^2 = .001$ ) or T3 ( $p = .925$ , partial  $\eta^2 < .001$ ).

Table 7.2

*Descriptive statistics for fusion at three time points*

Time	England			Brazil		
	M (SD)	Skew (SE)	Kurtosis (SE)	M (SD)	Skew (SE)	Kurtosis (SE)
T1	4.75 (1.43)	-.73 (.31)	.45 (.60)	5.40 (1.51)	-.93 (.12)	.34 (.24)
T2	4.48 (1.69)	-.49 (.54)	-.36 (1.04)	4.59 (1.63)	-.36 (.23)	-.57 (.46)
T3	3.88 (2.03)	-.21 (.51)	-1.21 (.99)	3.84 (1.60)	.09 (.34)	-.31 (.66)

*Self-transformativeness in England and Brazil one month after the World Cup*

Self-transformativeness was tested at T2 and T3. First we conducted one-way ANOVAs to contrast self-transformativeness in England and Brazil. Self-transformativeness did not significantly differ between Brazil ( $M = 1.89, SD = 2.19$ ;  $M = 2.42, SD = 1.75$ ) and England ( $M = 1.50, SD = 2.20$ ;  $M = 2.62, SD = 1.77$ ) at either T2 ( $p = .483$ ) or T3 ( $p = .668$ ). The extent to which participants reported being transformed by experiencing the World Cup significantly increased over time ( $t(54) = -2.41, p = .019$ , Cohen's  $d = .39$ ).

*Emotional arousal: physiological and affective*

Self-reported psychological affect at T2 correlated with affect at T3,  $r(55) = .42, p = .001$ . Physiological measures were obtained in the field laboratory and incur small sample sizes, particularly for the loss condition when a large number of our participants walked out of the game before it was over (Table 7.3). The results here are thus treated cautiously and are indicative of trends, rather than confirmatory analyses. For T2 with win/loss conditions collapsed, sample sizes

are as follows: cortisol,  $N = 40$  ( $M = 16.34$ ,  $Skew = 1.95$  ( $SE = .37$ ),  $Kurtosis = 3.56$  ( $SE = .72$ ))<sup>42</sup>; RSA,  $N = 29$  ( $M = 11.39$ ,  $Skew = -.53$  ( $SE = .43$ ),  $Kurtosis = .85$  ( $SE = .85$ )); and HR,  $N = 28$  ( $M = 127.34$ ,  $Skew = -.39$  ( $SE = .44$ ),  $Kurtosis = -.17$  ( $SE = .86$ )).

In a MANOVA, cortisol significantly changed over time ( $F = 4.62$ ,  $p = .013$ , partial  $\eta^2 = .11$ ), there was also an interaction between result and change in cortisol production ( $F = 12.78$ ,  $p < .001$ , partial  $\eta^2 = .25$ ) (Fig. 7.1). Heart rate ( $F = 1.14$ ,  $p = .327$ ) and RSA ( $F = 1.09$ ,  $p = .343$ ) did not change over time.

Table 7.3

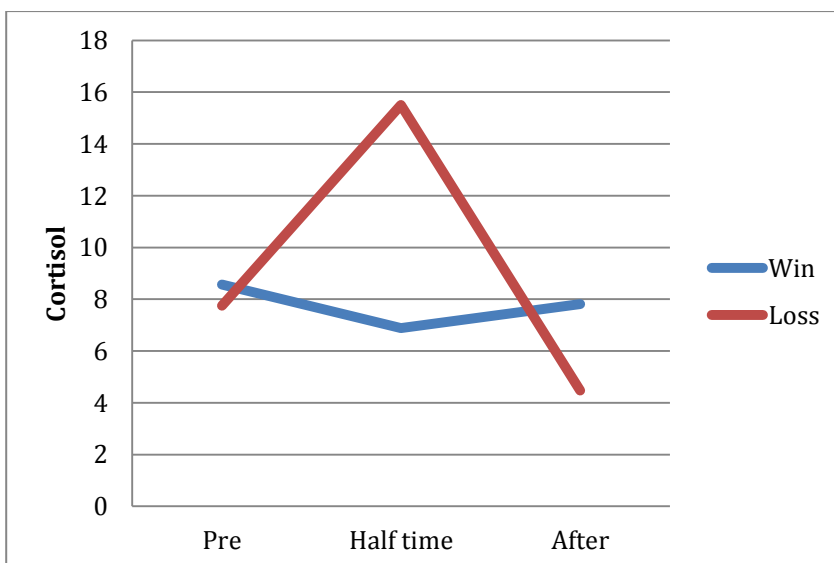
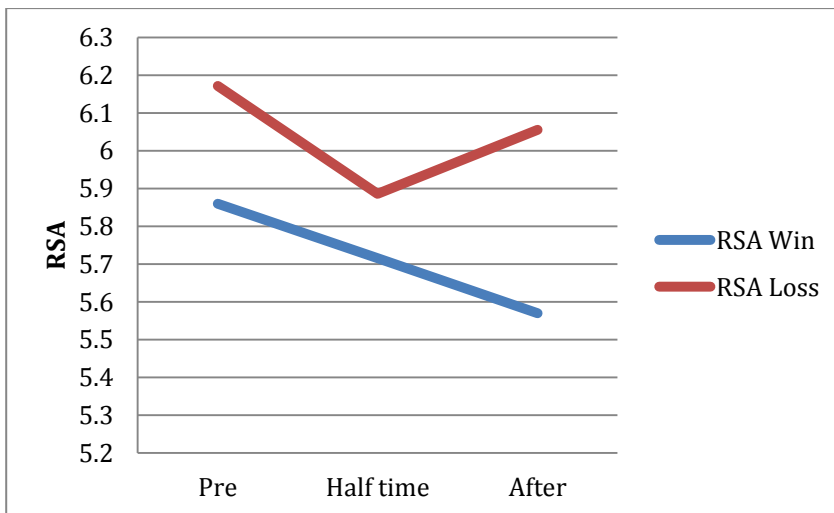
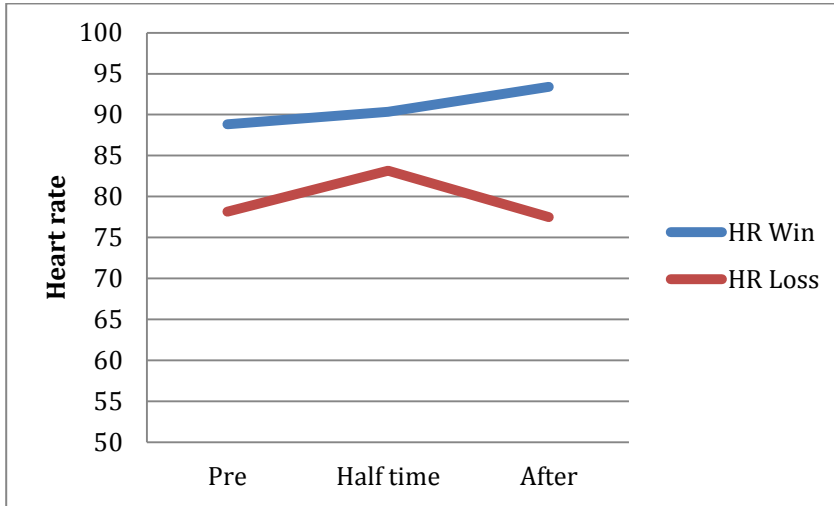
*Descriptive statistics for physiological measures by game outcome*

<b>Result</b>	<b>Measure</b>	<b>N</b>	<b>M (SD)</b>	<b>Skew (SE)</b>	<b>Kurtosis (SE)</b>	<b>SE</b>
<b>Win (T1/T2)</b>	Cortisol	32	13.91 (11.14)	2.84 (.41)	9.55 (.81)	.81
	RSA	22	11.19 (1.93)	-.24 (.49)	.22 (.95)	.95
	HR	21	181.46 (20.06)	-.83 (.50)	1.23 (.97)	.97
<b>Loss (T1/T2/T3)</b>	Cortisol	8	28.93 (16.49)	.73 (.75)	-.28 (1.48)	1.48
	RSA	5	12.27 (.53)	.12 (.91)	-2.61 (2.00)	2.0
	HR	5	167.49 (13.85)	.47 (.91)	-.73 (2.00)	2.0

<sup>42</sup> As kurtosis > 2, we were aware that non-parametric tests might be needed. However, this section of analyses focused on OLS regressions, which were deemed suitable for relatively normal data.

Fig. 7.1

Mean readings for physiological measures immediately before, during, and after watching a national football win or loss



### *Outgroup hostility*

Overall, the majority of participants opted to help the ingroup over helping themselves or spiting an outgroup. As shown in Table 7.4 English participants were more likely to select the condition that harmed the outgroup than Brazilian participants. In fact, no Brazilians selected the spite option, even though there were over twice as many Brazilians participating in this stage of the study.

Table 7.4

#### *Descriptive statistics for outgroup hostility by nationality*

<b>Nationality</b>	<b>Self</b>	<b>Ingroup</b>	<b>Spite</b>	<b>Total</b>
English	6 (30%)	10 (50%)	4 (20%)	21
Brazilian	16 (33%)	33 (67%)	0 (0%)	50
<b>Total</b>	<b>22 (32%)</b>	<b>43 (62%)</b>	<b>4 (6%)</b>	<b>71</b>

*Note:*  $X^2(2) = 10.52, p = .005, r = .38$

### **7.4.3 Hypothesis testing**

Please note that the analyses involving T3 pertain only to defeats, as we did not obtain T3 data for successful matches. T3 data from winning matches would have had interference from the dysphoric semi-final match.

#### **H1: Fusion to team increases following a national sporting disaster**

*Analysis:* To see if fusion to one's national team increased following a dysphoric World Cup event, we conducted a repeated-measures MANOVA with fusion as a repeated factor and nation as a between-subjects factor. To investigate whether this drop in fusion was a consequence of national sporting defeat, we then ran a repeated-measures MANCOVA with just T1 and T2 as levels, which enabled us to

include game outcome (win vs loss) as a between-subject factor along with nationality.

*Results:* The hypothesis was not supported and we found that fusion significantly decreased over time. The repeated-measures MANOVA showed a significant linear trend in decreasing fusion a day (T2) and a month (T3) after watching one's team exit the World Cup,  $F = 32.66, p < .001$ , multivariate  $\eta^2 = .75$ . There was no effect of nation ( $F = 1.27, p = .266$ ). Mauchly's test indicated that the assumption of sphericity had not been violated ( $p = .510$ ). After adding game outcome to the model, fusion decreased significantly from T1 to T2 ( $F(1,124) = 15.16, p < .001$ , multivariate  $\eta^2 = .11$ ), and there was a significant but weak interaction between fusion and game outcome ( $F(1, 124) = 10.92, p = .001$ , multivariate  $\eta^2 = .08$ ). Again, there was no interaction between nation and fusion ( $F(1, 124) = .48, p = .490$ ). The hypothesis was not supported as fusion significantly decreased rather than increased. As fusion decreased for both wins and losses, there may have been methodological issues regarding the use of state fusion measures close together (see 7.6 for an extended discussion of these limitations).

## **H2: Self-transformativeness predicts change in fusion**

*Analysis:* Even if fusion decreased overall, we wanted to check whether fusion increased for some individuals and if self-transformativeness predicted these increases. As a first step we checked to see if any of our participants actually increased in fusion and created a new change in fusion (T1-T3) variable by subtracting T1 fusion from T3 fusion. We then ran a correlation to see if this

variable would correlate with self-transformativeness. To further investigate the relationship between transformativeness and fusion we ran a MANOVA with fusion as a factor (T1, T2, T3) and self-transformativeness (T3) entered as a covariate. Finally, we tested whether self-transformativeness mediated the relationship between T1 and T3 fusion by running Model 4 in PROCESS.

*Results:* Around a quarter of individuals reported an increase in fusion from T1 to T2: 28% of English participants increased and 25% of Brazilian participants increased. Participants who reported feeling self-transformed also scored most highly for fusion at T1,  $r(127) = .29, p = .001$ . Self-transformativeness correlated with the change in fusion variable ( $r(69) = .31, p = .011$ ), such that the more a participant increased in fusion over the course of a month, the more they reported being transformed by their team exiting the World Cup. The effect was marginally significant after controlling for T1 fusion,  $r(124) = .16, p = .079$ . The MANOVA revealed a significant change in fusion over time ( $F = 20.67, p < .001$ , multivariate  $\eta^2 = .28$ ) and a weak but significant interaction between fusion and self-transformativeness, ( $F = 5.18, p = .009$ , multivariate  $\eta^2 = .09$ ), such that individuals who reported being more transformed also reported being more fused. There were no between-subjects effects of either transformativeness ( $F = 1.52, p = .224$ ) or nation ( $F = .98, p = .327$ ).

Self-transformativeness did not mediate the relationship between T1 and T3 fusion (Sobel  $z = -.46, p = .643$ ). In sum, a sense of being transformed by one's team exiting the World Cup seemed to play a role in increasing fusion levels, though self-transformativeness did not mediate the relationship.

### **H3: Emotional arousal predicts changes in fusion**

*(a) Self-reported affective arousal, i.e. dysphoric arousal, predicts increased fusion*

*Analysis:* To test the relationship between self-reported affect and fusion, we ran linear regressions with T2 or T3 affect scores as the independent variables and T2 or T3 fusion scores the dependent variables. To check that affect scores did not predict fusion simply because highly fused people were more affectively aroused by World Cup events, we checked the relationships between affect (T2 and T3) and the change in fusion (T1-T2) and (T1-T3) variables by running further linear regressions. Next we ran another MANOVA, again with fusion as the factor, but this time using affect as a covariate. Finally, we tested for mediation and moderation using Models 4 and 1 in PROCESS.

*Results:* The hypothesis received mixed support. While positive affect predicted fusion a day after the event (T2), a month later (T3) negative affect predicted fusion. Affect did not appear to underlie (mediate) changes in fusion over time.

Linear regressions showed that a day following the event, higher T2 affect scores (i.e. more euphoric self-reports) predicted higher T2 fusion scores in a linear regression,  $R^2 = .03$ ,  $F(127,1) = 4.38$ ,  $b = .19$ ,  $p = .038$ . However, the trend was reversed a month later whereby low T3 affect scores (i.e. more dysphoric self-reports) predicted high fusion scores at T3,  $R^2 = .10$ ,  $F(68,1) = 7.79$ ,  $b = -.45$ ,  $p = .007$ . Affect also predicted increases in fusion from T1 – T2 ( $R^2 = .05$ ,  $F(125,1) = 6.83$ ,  $b = .18$ ,  $p = .010$ ) but not T1-T3 ( $R^2 < .01$ ,  $F(67,1) = .01$ ,  $b = .01$ ,  $p = .941$ ). There was no interaction between T3 affect and the fusion factor

in the MANOVA ( $F = .30, p = .739$ ), but there was a between subjects effect of affect ( $F = 5.52, p = .023$ ) – the results were similar for affect at T2.

There was no evidence of either mediation (*Sobel*  $z = .51, p = .608$ ) or moderation (interaction between T1 fusion and T2 affect to predict T2 fusion:  $b = -.04, p = .47$ ). In sum, euphoric experiences of the World Cup predicted short term (1 day) high-fusion scores and increases in fusion. On the other hand, dysphoric experiences of the World Cup appeared to predict increases in fusion over the course of a month. Self-reported affect did not mediate or moderate changes in fusion over time.

*(b) Physiological measures, i.e. fluctuations in heart rate, cortisol production, and RSA, during the event predict increased fusion.*

*Analysis:* First, we assessed the relationship between heart rate and fusion. To investigate whether heart rate at T1 impacted T2 fusion, we ran a linear regression with the AUCg measure of heart rate obtained during live World Cup matches (IV) T2 fusion (DV). We then re-ran the regression controlling for T1 fusion and entered change in fusion (T1-T2 or T1-T3) as the dependent variable. Finally, we tested for mediation. A major limitation of these analyses and the other physiological analyses to follow is the small sample size ( $N < 30$ ). Unfortunately, considering T3 fusion for loss / win conditions separately resulted in an extremely small sample size ( $N < 5$ ). These results are only treated descriptively (Table 7.3).

Next, we tested the relationship between T2 fusion (DV) and cortisol production (IV) by running a linear regression. We then re-ran the regression controlling for T1 fusion. Finally, we investigated RSA by repeating the above analyses and replacing cortisol for RSA.

*Results:*

Heart rate: With win and loss conditions together, the linear regression showed that heart rate predicted fusion at T2, such that participants who experienced elevated heart rate over the course of the match had the highest fusion scores at T2,  $R^2 = .36$ ,  $F(13, 1) = 7.45$ ,  $b = .06$ ,  $p = .017$ . This result held even when controlling fusion at T1 ( $b = .86$ ,  $p < .001$ ),  $R^2 = .91$ ,  $F(12, 1) = 63.66$ ,  $b = .02$ ,  $p = .013$ ,  $\Delta R^2 = .55$ . As such, heart rate also predicted change in fusion from T1 – T2 ( $R^2 = .31$ ,  $F(13, 1) = 6.01$ ,  $b = .02$ ,  $p = .029$ ). Heart rate did not mediate the relationship between T1 and T2 fusion as the  $a$  path was not significant ( $b = 5.08$ ,  $p = .129$ ). The results suggest that participants with the greatest fluctuation in heart rate reported the highest fusion scores at T2, even if they started out with low fusion scores<sup>43</sup>. Indeed, heart rate predicted a composite 'change in fusion' (T2 minus T1) variable ( $R^2 = .42$ ,  $F(12, 2) = 4.28$ ,  $b = .02$ ,  $p = .013$ ) even when controlling for T1 fusion ( $b = -.14$ ,  $p = .18$ ).

Cortisol production: Changes in cortisol production marginally predicted fusion at T2,  $R^2 = .18$ ,  $F(20, 1) = 4.27$ ,  $b = .06$ ,  $p = .052$ , but the effect of cortisol was lost ( $b = .02$ ,  $p = .205$ ) once controlling for fusion at T1,  $R^2 = .85$ ,  $F(19, 2) = 53.56$ ,  $p < .001$ ,  $\Delta R^2 = .67$ . Nor did cortisol predict the change in fusion variable (T1 – T2) ( $R^2 = .09$ ,  $F(20, 1) = 2.06$ ,  $b = .02$ ,  $p = .166$ ). This suggests that those

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<sup>43</sup> We re-ran all of the analyses controlling for relevant demographic variables (Appendix H4). For the physiological measures, after including these additional variables with such small sample sizes, the patterns became weak or non-significant. For heart rate, once controlling for age and gender, only age predicted T2 fusion ( $F = 12.95$ ,  $p = .004$ ), while heart rate ( $F = .07$ ,  $p = .804$ ) and gender ( $F = .34$ ,  $p = .574$ ) did not,  $\Delta R^2 = .71$ . Age did not predict change in fusion.

who had the greatest increases in cortisol over the course of the game also reported the highest fusion at T2 because they were initially highly fused<sup>44</sup>.

RSA: This was the only physiological measure that correlated with self-reported affect, such that the more dysphoric people reported the event, the higher their RSA rates  $r(15) = -.52, p = .048$  (see correlations table in Appendix H2). RSA did not predict fusion at T2 ( $R^2 = .04, F(13, 1) = .56, b = -.29, p = .468$ ) nor change in fusion (T1-T2) ( $R^2 = .12, F(13, 1) = 1.69, b = -.19, p = .216$ <sup>45</sup>).

In sum, the physiological measures provided mixed results. Elevated heart rate seemed to be the best predictor of change in fusion though this result may have been related to older participants reporting higher T2 fusion scores (Appendix H4). Increased cortisol production was also related to fusion, but more likely an effect of initially high fusion levels. RSA did not predict either fusion at T2, or change in fusion, but was related to self-reported affect.

#### **H4: Fusion predicts outgroup hostility**

*Analysis*: To test whether fusion predicted outgroup hostility, we conducted a multinomial logistic regression with fusion as the independent variable and the trinomial hostility variable the dependent variable. We then re-ran the analysis, including nationality as a factor.

*Results*: The hypothesis was supported and fusion significantly predicted outgroup hostility in the IPD-MD,  $X^2(2) = 9.93, p = .007, r = .37$ . Fusion significantly predicted differences between donations to self and spite pots (*beta*

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<sup>44</sup> After controlling for age and gender, cortisol marginally predicted fusion at T2 ( $F = 3.55, p = .075$ ), as did age ( $F = 3.89, p = .063$ ), but gender did not ( $F = .08, p = .783$ ),  $\Delta R^2 = .33$ . These effects disappeared after controlling for T1 fusion.

<sup>45</sup> RSA ( $F = .01, p = .947$ ) and gender did not predict T2 fusion in this model ( $F = .415, p = .533$ ), but age did ( $F = .22.72, p = .001$ ),  $\Delta R^2 = .71$ .

= -1.28,  $SE = .50$ ,  $p = .01$ ), and between ingroup and spite pots ( $beta = -1.08$ ,  $SE = .48$ ,  $p = .03$ ). Fusion did not significantly predict the difference between donations to self and ingroup pots ( $beta = .20$ ,  $SE = .17$ ,  $p = .22$ ). On re-running the analyses, both fusion ( $X^2(2) = 9.56$ ,  $p = .008$ ,  $r = .37$ ) and nationality ( $X^2(2) = 10.29$ ,  $p = .006$ ,  $r = .38$ ) predicted outgroup hostility as 20% of English participants chose the spite pool, compared to 0% of Brazilians (see Table 7.4 in the descriptive statistics section). In sum, there was substantial cultural variation in outgroup hostility, but fusion was a good predictor of the measure even after controlling for nationality.

## 7.5 Discussion

In contrast to the stability of fusion to nation (Chapter 6), we found significant decreases in fusion to national team a day and a month after the World Cup event. This finding is in support of a large body of literature on CORF-ing behaviours (Ellemers et al., 1997; Campbell Jr et al., 2004; Kwon et al., 2008). Despite this climate of decreasing fusion, around a quarter of individuals actually increased in fusion and, for them, a sense of being transformed by the event predicted those increases. Self-transformativeness predicted increases in fusion a month, but not a day, after the event. We also found that self-reported affective arousal predicted fusion. A day after the event euphoric arousal predicted fusion, but after a month dysphoric arousal predicted fusion. This may be indicative of the fact that it is the social mediation (e.g. interaction with friends and fellow group members) and reflection of arousing events leads to fusion, rather than arousal in its own right. Though limited by small sample sizes, there was a trend for increased heart rate during matches predicting an increase in fusion a day after the event. Heightened cortisol production during

the match also predicted fusion at T2, though not after controlling for T1 fusion, and RSA did not predict fusion at all. Finally, fusion predicted personally costly, pro-group outcomes, i.e. donations to the ingroup or harming an outgroup at a cost to self.

### **7.5.1 Decreasing fusion**

Our main hypothesis, that fusion increases following a dysphoric shared experience, was not supported. This could be due to methodological or theoretical reasons. Methodologically, we used the same state fusion measure spaced a day apart, which could have resulted in participants becoming accustomed to the measure (with an additional trait measure included a month later). Theoretically, it could be argued that fusion takes time to increase following a period of reflection. We included a measure one month following the event and still found a significant decrease in fusion. This differs from the results pertaining to fusion to national identity, where fusion remained stable over 18 months.

Secondly, the World Cup events may not have conformed to the imagistic mode enough for modes theory to successfully explain individual differences in fusion. For instance, the 'dysphoric' outcomes may not have been sufficiently traumatic or personally defining for the majority of individuals. We found that fusion did increase in around a quarter of participants – seemingly due to a process of becoming self-transformed by the event. Why these individuals and not others? Further research is needed to understand what disposes some individuals to become fused by dysphoric events or to perceive them as personally transform, and not others. This could be a particularly valuable research area for understanding processes of radicalisation (and de-

radicalisation), where fusion has already been noted as playing an important role (Knapton, 2014; Atran, 2016; Monahan, 2016).

I propose that club-level football is a more suitable target than national football for future studies because, as shown in Chapter 5, football fans (at least those of British clubs) tend to support their club over their national team. They also tend to hold more loyalty beliefs about their club. This is in support of the ethnographic literature suggesting that the two identities are not particularly compatible due to the strains international tournaments put on players, the relative infrequency of international matches, and the increased cost of attending these games (Giulianotti 1995, Pearson 2012) (see 3.2.3). Club-level football still has opportunities for cross-cultural research, as there are also many international club tournaments, e.g. the UEFA Champion's League in Europe or CONMEBOL's Copa Libertadores de América in Latin America.

The role of self-transformativeness in identity fusion following dysphoric events is supported by Chapter 5 and its corresponding journal article (Newson et al., 2016). The present chapter supports the view that it takes time for negative affect to be processed (i.e. become self-transform) because neither dysphoric affect nor self-transformativeness predicted changes in fusion at T2 (a day after the event), but they did at T3 (a month later). Unlike the results in Chapter 6 where self-transformativeness was recorded one year after the event, self-transformativeness did not mediate the change in fusion. This may be because self-transformativeness needed more time to develop in the present study.

Given that the final match we examined (Brazil - Germany) was such an acute loss, one might expect stronger results for Brazilians compared to English

participants. However, analyses were problematic as around 75% of our participants in loss conditions were Brazilian. In tentative analyses, we found similar results for the Brazilian subset compared to the overall dataset, i.e. fusion also significantly decreased at each time point; there was a marginal interaction between fusion and transformativeness; and there was a significant between subject effect of transformativeness. As per the sample in its entirety, affect did not predict change in fusion for participants from the Brazil-Germany game.

We also investigated outgroup hostility. Previous research has identified fusion's role in extreme pro-group behaviours, but less has been done to test outgroup hostility specifically. Here, we tested personally costly outgroup behaviours, which extends the ingroup donations measure used in Chapter 6. Overall, the results of our study were similar to Halevy et al.'s findings (2008, 2012): 6% of our sample selected the spite pool, compared to 4-6% for Halevy et al.'s minimal groups. However, when broken down into nationalities, it seems that English football supporters behaved more like those in Weisel and Böhm's study (2015): 20% of English supporters chose the spite pool, compared to 23% in the 2015 study. Notably, not a single Brazilian chose the spite pool. This is likely due to the appropriateness of the outgroup target, as discussed in the next section. Importantly for the wider literature, fusion was a significant predictor of outgroup hostility using the IPD-MD. The next sections further discuss cultural differences relating to fusion and self-transformativeness, and outgroup hostility

## 7.5.2 Cultural differences

### *Fusion and self-transformativeness*

Comparisons between cultures are limited in this study due to the bias toward Brazilian fans. For both nationalities, fusion to national team tended to decrease over time. For both nations, around a quarter of individuals (25% and 28%) increased in fusion. As in Chapter 6 Brazilian participants consistently scored higher for fusion than English participants. This perhaps reflects a systematic inclination among Brazilians to score higher for national fusion targets. This would be in line with the only other cross-cultural research conducted with a Latin American nation where fusion measures have been utilised: Chile (Swann et al., 2014b). Alternatively, English participants had all travelled to attend the games suggesting that the World Cup experience may have been particularly self-defining for them. They may have been more aware of fair-weather fans and consequently self-reported lower fusion rates.

In Swann et al.'s study comparing nine nations from six continents, participants were most willing to fight and die for their family but, after family, Chileans selected country over peers or religion (and more so than other nationalities did, except China), i.e. they selected a group associated with categorical over relational ties. On the other hand, Chileans did not score particularly highly for fusion compared to other nations (and lower than the US). However, Chile and Brazil as two distinct Latin American nations (or the US and the UK as distinct Anglo nations) can only be used as equivalents in very approximate terms. Chapter 8 tests Brazilian participants' fusion to football clubs and a comparison with British fusion to football clubs is provided. Further

research is required to specify why fusion tends to be higher for Brazilians than for English participants.

Self-transformativeness, which interacted with fusion did not significantly differ between the two nations. Although English fans had travelled for the World Cup, Brazilian fans encountered a more shocking defeat. Nor was nationality a between-subjects factor in the degree to which fusion changed over time. Physiological arousal was only recorded for a sub-sample of Brazilian participants, who we were able to recruit for our lab in Brazil for live matches. English participants were also recruited in Brazil, but in a stadium where we could not set up a field laboratory for this study.

### *Outgroup hostility*

We found that pro-group actions were predicted by fusion for both English and Brazilian participants. However, English participants reported more spite. This may have been due to a longer history of footballing (and political) rivalry with the outgroup in the scenario, Germany. Furthermore, reading subsequent analyses of the World Cup, it seems that many Brazilians switched to supporting Germany in the finals simply because Germany were facing long-standing rivals Argentina (Sullivan, 2014). By supporting Germany, the collective shame that Brazil experienced was reduced as their victors spared them the even greater shame of an Argentinian World Cup victory on home soil. We opted to select a single outgroup (i.e. the World Cup winner) for both groups for greater control, but future cross-cultural designs would improve from generating specific outgroups. Our results may have been stronger if Brazilians could have opted to spite Argentina as their outgroup.

### 7.5.3 Implications

This chapter employed a novel field design at four live World Cup events in Brazil (five if the pilot is included) and utilised a methodology that moved from the WEIRD, to the WILD (see Appendix A). In this natural experiment, we found that self-transformativeness predicts increases in fusion and that fusion predicts outgroup hostility. By finding that fusion predicts spiteful (and pro-group) personally costly outcomes in relation to Halevy et al.'s relatively simple economic game, we have helped to validate the IPD-MD as a tool that other fusion and inter-group conflict researchers can use to further explore attitudes to in- and outgroups.

We also gained tentative results for physiological measures, which point to the challenges of working in the field. These challenges include using equipment such as HRV monitors and excluding unsuitable participants for rigorous cortisol analyses. A particular obstacle in this research was persuading participants to chew on an unpleasant salivette for a minute, three times, after experiencing the worst World Cup defeat in living memory (more on limitations in the following section). Though we would advocate for WILD research to be conducted, the challenges it presents both logistically and scientifically should not be underestimated.

Although our sample sizes for physiological measures were small, the results are encouraging. Specifically, heart rate and cortisol production seem to be associated with increases in fusion a day following the World Cup. In particular, elevated heart rate predicts how fused an individual is, regardless of how fused they were before the match. Taken together, the cortisol and heart rate analyses suggest interaction between the endocrinal system and fusion, and

that the cardiovascular system is implicated in the causal path to identity fusion. These small sample sizes are balanced by the fact that there are fewer uncontrolled social and background variables in physiological measures. Indeed, health research using physiological measures often comprises only eight subjects (Reinard, 2006). Although the relationship between heart rate and increases in fusion (regardless of baseline fusion) is a promising trend, future research is needed to quantify these findings with larger sample sizes and greater control.

## **7.6 Limitations**

### **Sampling and attrition**

#### *Bias*

The study is limited by self-selection bias and attrition. First, there may have been self-selection bias in terms of participants who were willing to take part. Research assistants were instructed to approach a range of people and our demographics do not indicate substantial irregularities in the sample. Self-selection bias would have been more likely for the physiological aspect of the study because only participants who did not smoke, agreed not to eat or drink prior to the experiment (in particular, to not consume alcohol), and were willing to wear the equipment during live matches were included. During a live World Cup game, which is akin to a national holiday in Brazil, this is a rather exceptional population. As a result, the physiological measures comprised small sample sizes, especially when divided into groups for comparison, which limits any inferences that can be made from the data. To encourage participants we

offered a prize draw, a comfortable area, food, and beers after the game. There was no self-selection bias in terms of participating in winning vs. losing conditions because games were live and we could not allocate participants advance of the outcome.

Brazilian participants were better represented than English participants and we had no English participants for euphoric games. Furthermore, English participants were only recruited within-stadia and were likely to have travelled considerably to support their national team indicating high levels of commitment to the national team, whereas the Brazilian participants were likely to be local to the region. Despite the fact that English participants were perhaps more likely to be ardent supporters, as evidenced by their travel, Brazilian participants still scored higher for fusion to their national team at T1. This also may have been due to the cup being hosted by Brazil, which could have elevated state fusion, though Brazilian fusion scores were also higher with regards to nation in Chapter 6 (Chapter 8 includes a note on differences between Brazilian and British fusion to fans and club, see 8.4.1). Although we tried to gather data that was less WEIRD by recruiting in the field, participants who completed T2 and T3 had to do so online, thus creating a sampling bias in terms of Internet access (and inclination to participate in research / delayed gratification for the lotto prize).

A simple strategy to avoid biasing the sample would have been to invite participants to a laboratory in the UK to conduct equivalent physiological measures during live World Cup games. Although we did not have access to equipment or specialist knowledge in the given timeframe, this would have had the advantages of providing a comparison group and the possibility of a greater

sample size for analyses. Future studies should concentrate on either one nation or investigate multiple nations more rigorously (e.g. equal sample sizes and equal conditions, i.e. attending away matches) for a better comparison.

### *Attrition*

Attrition is a more concerning issue (76% attrition in the euphoric condition from T1 to T2; 69% attrition in the dysphoric condition T1 to T2 and 68% attrition T1 to T3). This study highlights the challenges of collecting longitudinal data in the field and is a methodological step toward less WEIRD participants (Henrich et al., 2010a). Due to attrition and small sample sizes, this study's results must be treated with caution. As to why attrition was so high (particularly for those who started out highly fused), some people may have chosen to discontinue participation because it was too painful to recall the experience of exiting the World Cup. This does not explain attrition in the euphoric condition. Around ten participant email addresses could not be read due to the rushed or poor handwriting of our RAs. As there was a relationship between high fusion and low education, it is possible that highly fused people tended to find the survey more cognitively demanding, which put them off.

### **Measures**

Our main hypothesis, that fusion to national team would increase following a dysphoric event, was not supported using our measures. While it is possible that the experience was not dysphoric enough to allow it to map on to the dysphoric pathway to fusion, there are some serious problems with our measurements that should be discussed before discounting modes theory's application for live sporting events (particularly given the support found for the dysphoric pathway

in Chapters 4 and 5). There are also issues with conflating 'national team' and 'fellow fans' (as per Chapter 4) because the two seem to foster different patterns of allegiance and behaviour (see Chapters 5 and 8). However, this methodological issue was addressed in chronologically later chapters and is not something we knew before conducting this doctoral research.

Next, we assessed state fusion in relatively quick succession using a three-item measure. Although we had limited time to access a large number of participants and we did not want to put them off, if we had used the full scale, perhaps a repetition-bias could have been avoided, resulting in more reliable data. However, the overall decrease in fusion was so consistent that it seems unlikely that this finding was due solely to repetition bias. Next, the T1 measure was taken so close to the match that it does not constitute a 'before' measure in the same way that the physiological 'before' measures do. HR, RSA, and cortisol production fluctuate over short periods of time, while social cohesion may ebb and flow more gradually than this. Specifically, state fusion was likely to be elevated in the days or weeks preceding the match both for the Brazilians who had been exposed to national preparations for the game and the English participants who had travelled thousands of miles to join their national team. With this in mind, if the 'before' measure was instead a measure of peak fusion, then we should have devised a methodology where we targeted and surveyed participants a month before the event and then re-surveyed them soon after the match by phone, email, or in person.

Partly due to the logistics of planning experiments in the very short time frame between World Cup games, we did not include a comparison between the dysphoric Brazil - Germany game and a euphoric victory that we could have

recorded T3 measures for, i.e. the Germany – Argentina final. We gained T2 data for euphoric games but could not get T3 data from the same participants as Brazil would have played a further (dysphoric game) that would have interfered with these results. We attempted to recruit some German research assistants in Rio de Janeiro for the finals against Argentina, but with just a week for translation and back-translation of materials the time period was not sufficient. We considered running the experiment in English for the German supporters because German tourists are so frequently proficient in English, but a pilot with a research assistant in Rio found that the English fusion measures became confusing, unless the participant was fluent in English. Including a euphoric comparison seems a productive way to verify whether self-transformativeness follows both dysphoric and euphoric events, and if fusion emerges in different ways from the two. Related to this, future research would also benefit from including a measure of reflection. This is a crucial step in the dysphoric pathway to fusion (Jong et al., 2015) and future studies should include this measure along with self-transformativeness to build models with greater explanatory power.

### **Logistics**

This study was relatively large ( $N = 476$ ), multi-national (England and Brazil), longitudinal, included physiological measures, and was conducted in busy stadia, Fan Fest sties, or our field laboratories. It was also run while I was in the first trimester of pregnancy and after only having had time to complete a short course in Portuguese<sup>46</sup>. This study therefore faced a number of logistical

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<sup>46</sup> Having started the doctorate and deciding to focus on fusion in football fans in October 2012, I started a Spanish course predicting that after English, Spanish was the next most spoken football language. We then decided to target Brazilian and English fans at the World Cup in January 2013 and collected data at live games in June-August of that year.

challenges that the other studies did not suffer (see Appendix D for details of the other naturalised study we piloted, the emergency intervention design).

First, we had to set up the study with our collaborators at UFRN in Natal, Brazil. Through UFRN we also acquired RAs, however I had to co-ordinate the team. This required that I adapt linguistically because not everyone spoke English and it was more efficient that I quickly learn Portuguese to avoid asking for translations at every meeting. It also required that I adapt culturally and adjust my expectations and instructions, e.g. RAs not filling in the rest of a questionnaire if a participant walked off, or randomly matching a participant with a participant number, which would affect the longitudinal element of the design. Piloting helped the team come together and work through these issues so that we had a precise and determined team for the four main events, though my principle RA was twice replaced.

We conducted the pilot in a stadium in Natal (USA x Ghana), which showed how challenging it was to gain large amounts of data in these conditions. This was largely due to persuading prospective participants that we were not selling anything and talking through consent. A particular challenge was finding participants again after the match. We thus decided to include one World Cup game in the main design, so as to include English participants. I also ordered University of Oxford t-shirts for RAs to increase our credibility. As the only England game for which we could get tickets was in Belo Horizonte, I could not attend (due to a yellow fever risk that I could not be vaccinated against while pregnant). However, Professor Whitehouse and three RAs collected data in the stadium. Similar challenges were met in the stadium in terms of finding participants for the second survey so it was decided that we would collect T2

data the following day, instead of immediately after the match. However, gaining longitudinal data was a severe issue in this study and attrition was perhaps its major downfall. Despite the incentives, some participants may have changed email addresses and there were problems with matching data from time points across datasets and interpreting participant or RA handwriting from T1.

For Brazil's three matches, I split the Natal-based team of research assistants so that half would collect measures at the Fan Fest site and the other half would collect measures in the field laboratory. For both sites we had to buy and print sufficient supplies, and incentivise RAs to complete the job (gratitude and participating in an Oxford experiment seemed to work better than monetary reward overall). For the field laboratories, I used my hostel's garden and had the assistance of the hostel manager's son in setting up an Internet connection to UFRN's projector. However, we had to buy unexpected additional electronic equipment, as well as the food and drinks for participants. The food and drink was deemed essential by the RAs, as was ice to chill the drinks(!). We knew that if Brazil won the game we were collecting data at, we would have to conduct another study so we wanted the participants to report back to their friends that it was a positive experience and have adequate sample sizes.

### **Evaluating the limitations of Chapter 7**

Although this study was the most demanding in terms of data collection, it has provided lessons for good practice in fieldwork. Many of these are addressed in Appendix A, if not in this chapter, or my corresponding commentary to Sloan Wilson and Whitehouse's essays on developing the use of the field site for the study of cultural evolution (Newson, 2016). The present chapter suffers from the most extreme limitations of the empirical chapters. These pertain largely to

attrition and a biased sample, due in part to a design that was perhaps overly ambitious given the timeframe. This study was cross-cultural, longitudinal, and experimental, and comprised multiple field laboratories for both psychometric and physiological measures during what was arguably Brazil's most important national sporting event in history. Retaining the sample from a field site proved challenging and, ideally, the longitudinal nature of this design would be extended to test the emergence of self-transformativeness over a longer time frame, i.e. a year or more, as in Chapter 6. Although we applied as much scientific rigour as we could to gain reliable data for our physiological measures taken in the field, we had not anticipated how challenging this would make recruitment. Consequentially, sample size was a real setback for interpreting the data. However, the trends for the relationship between fusion and heart rate appeared to be more promising than the results relating to cortisol production or RSA.

## **Conclusions**

For some individuals, the tragedy of losing in the World Cup, was transformative enough to transform their personal identities, leading to higher fusion with their national team and fellow fans. Overall, the World Cup led to a significant reduction in fusion a day and a month later, which may have been due to including the initial fusion measure at a time of 'peak fusion'. Our self-reported measure of affect did not predict changes in fusion, but we did find promising trends for the relationship between increases in fusion and HR, controlling for initial fusion. We also found a trend for highly fused fans to experience the greatest fluctuation in cortisol production, though there was nothing significant in our analyses concerning RSA. A discussion of the study's limitations pointed to a need for larger sample sizes for physiological measures, a reduction in

attrition, longer periods between measures (as in Chapter 6), and a need to capture both euphoric and dysphoric data (as in Chapters 4 and 5).

Finally, we found that fusion predicted outgroup hostility in an economic game. This measure is used again in Chapter 8 with a sample of Brazilian fans and hooligans, as well as measures of willingness to fight and die and self-reports of actual violence. These behavioural consequences of fusion have the potential to be described as some of the most extreme and dangerous social behaviours we know (Whitehouse et al., 2013; Buhrmester and Swann, 2015). When viewed in this way, a more thorough understanding of the causes and consequences of identity fusion could conceivably impact a great many areas, perhaps most importantly conflict resolution and policies relating to inter-group conflict.

## Chapter 8

### The football soldiers of Brazil

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As outlined in Chapter 3 (3.2.5), for the purposes of this thesis, football hooliganism describes what some fans *do*, rather than who they *are*. Hooligan behaviour is defined as violent and sometimes co-ordinated action against outgroups, including verbal abuse, destruction of property, and physical violence. This broad and inclusive definition allows us to move beyond the social stereotypes that have proliferated much of the popular media and sociological work (e.g. Lawther, 1972; Zani and Kirchler, 1991; Wakefield and Wann, 2006). By focusing on actions rather than social types, we provide a framework that will allow for future cross-cultural work into international hooliganism.

Football-related violence occurs globally and at great societal costs. To reduce the problem, we must first understand the psychological mechanisms that promote hooliganism. Previous work suggests that football-related violence is driven by socially maladjusted youths who have found an outlet for anti-social expression. We challenge this work and instead propose that much football-related violence is motivated by a parochial form of *prosociality*, similar to the 'brothers in arms' motivational stance of military and paramilitary groups. We propose that hooliganism is driven by the confluence of two forces. The first is situational: membership of a group that experiences or perceives high levels of outgroup threat, i.e. being in an extreme fan group such as a *torcida organizada*. The second force is identity fusion: a state of seeing oneself as 'one' with one's fellow fans. These two factors, (1) membership in an embattled group and (2) fusion to the supporters of the group, promotes intense commitment to the group similar to that found among militiamen and 'brothers in arms' (Fredman

et al., 2017). Our findings could help develop interventions to decrease hooliganism and patterns of inter-group violence in other embattled groups and organisations around the globe.

## **8.1 Football hooliganism**

Much of the literature on football fandom focuses on behaviour commonly regarded as anti-social, including between-group aggression, violence, and vandalism. Indeed, football violence is a persistent global problem, leading to injury, destruction, and even death (Spaaij, 2005; Stott et al., 2008; Raspaud and da Cunha Bastos, 2013; Sekulic et al., 2015). To decrease the violence associated with hooliganism, we need to understand what motivates it in the first place.

One common perspective is that hooliganism stems from social maladjustment (Lawther, 1972; Zani and Kirchler, 1991; Wakefield and Wann, 2006) and has its roots in the sociological concepts of class (Dunning et al., 1986; Robson, 2000) and masculinity (Taylor, 1987; Spaaij, 2008). An examination of the literature identifies the expected socio-demographic factors as significantly predicting hooliganism, i.e. hooligans are found to be young, male and working-class (Zani and Kirchler, 1991; Wakefield and Wann, 2006). These demographic measures have been used as evidence of social maladjustment. Yet there is scant evidence for maladjustment directly causing or even influencing hooliganism.

In fact, many high-profile hooligans (Francis and Walsh, 1997) are not social misfits but fervently *prosocial*, albeit from a parochial perspective (Bernhard et al., 2006; Choi and Bowles, 2007). When discussing football with ardent fans in the preparatory phases of this research, it seemed that football passion and the violence this often entails was social based, rather than hinging solely on deviance or maladjustment. Parochial prosociality has been quite

extensively studied in behavioural experiments (Diekhof et al., 2014), even in non-WEIRD contexts, such as the third-party punishments conducted by Bernhard et al. (2006) with members of two indigenous groups from Papua New Guinea. However, there has been little work attempting to situate football-related violence in relevant social psychological frameworks. Here we explore the hypothesis that hooliganism is a pro-social, defensive reaction to protect ingroup brethren (Swann et al., 2014a; Whitehouse et al., 2014; Buhrmester et al., 2015).

Identity fusion theory provides a useful framework for examining the motivations underlying football-related violence. Dozens of studies in various group contexts (e.g. national, political, religious identity) show that strongly 'fused' persons are extraordinarily pro-social towards fellow group members (Swann et al., 2012) (see section 2.2.5). We propose that fans who experience a sense of 'oneness' with their fellow fans come to see ingroup members as psychological kin (Whitehouse and Lanman, 2014; Buhrmester et al., 2015). Fusion, when coupled with membership in an embattled group, may lead to feeling that no sacrifice or act of hostility is too big because one feels compelled to defend one's 'brothers in arms' (Whitehouse et al., 2014). We begin by overviewing football hooliganism, definitions of hooliganism and its motivations, then introduce fusion theory and its application to hooliganism.

Our aim is to investigate potentially positive outcomes of extreme commitment among football fans, something that is not always appreciated by those responsible for crowd control in either Brazil or the UK. These are the first steps toward evidence-based psychologically-framed responses to hooliganism. We hope to contribute to the development of increasingly effective strategies for

harnessing pro-group sentiments associated with identity fusion for positive social outcomes among violent groups.

### **8.1.1 Perspectives on 'hooliganism'**

Football violence is a global and persistent problem, spanning at least three continents and five decades (Taylor, 1971; Armstrong, 1998). In Brazil deaths from football-related violence have been steadily increasing: 14 deaths 1999-2003, 14 deaths 2004-06, 14 deaths 2007-08, 21 deaths 2009-10, and 34 deaths 2011-12 (Murad, 2013; Raspaud and da Cunha Bastos, 2013). The costs to government spending on security are also significant. The UK, which is noted for decreasing football hooliganism after decades of violence and international bans (Dunning, 2000; Spaaij, 2005; Spaaij, 2006), still spends over £7.5m on policing football matches each year, a figure representing just a fraction of the nation's highest performing league (Bridge, 2008). In Italy, a nation known for '*ultras*' or extreme fans, about €40m were spent annually on law enforcement officers for football matches in the 1990s (De Biasi, 1997).

#### *Origins*

The bulk of the literature seems to avoid the complex, heterogeneous term 'hooligan', instead using terms like 'football-related violence' or 'football-related disorder'. This is because there is 'no hard and fast definition of what "football hooliganism" actually is' (Giulianotti, 2014, 10). It may refer to violence, arson, taunting songs, the intention to fight, or a desire to be publically associated with groups with a reputation for violence. Sociological work suggests that violence within hooliganism is actually more asserted by outsiders (Armstrong & Harris,

1991) and is a construct propagated by the media and politicians, rather than being a social scientific or social psychological concept (Dunning, 2000, 14).

However, hooliganism as it is commonly known is largely accepted to stem from a British, working class variant in the 1960s. Its etymological roots date to a century prior to this, also in Britain, meaning 'gangs of rowdy youths' deriving from a notorious fighting London-Irish family name, 'Houlihan' (Pearson, 1983 in Dunning, 2000). According to Dunning (2000, 157), a common thread among predominantly male football hooligans is 'masculinity, territorial struggle and excitement'. What actually distinguishes this subset of 'hard-core fans' is not just involvement in an organised, violent group, but greater dedication to their team and fellow fans, including more match attendance and a potentiality for low-level violence (Armstrong & Harris, 1991). Although this chapter presents evidence for fusion's role in football violence, we do not dismiss the role demographic measures may play in the development of these behaviours. Of particular interest is the idea that lower socio-economic status and harsh environments may lead to certain cognitive advantages (Mittal et al., 2015; Frankenhuis et al., 2016). Perhaps individuals from these backgrounds have a heightened capacity for social bonds beyond actual kin networks, which would be advantageous in environments where resources are limited or uncertain. This may translate into the propensity for fusion – and a willingness to fight and die for the group - in later life.

In contrast to Dunning's presentation of football hooliganism being a universal phenomenon, Spaaij (2007, 18) asserts that hooliganism, as a 'new' form of collective violence (unlike general violence), is specifically European, Latin American and somewhat Australian in nature. He proposes the following

definition of hooliganism, which appears to hold true exclusively in the cultural contexts listed above and matches this project's needs: '[hooliganism is] the competitive violence of socially organized fan groups in football, principally directed against opposing fan groups' (Spaij, 2007, 11). The next section evaluates sociological and anthropological perspectives on hooliganism.

*Sociological and anthropological perspectives: hooliganism as ritualised behaviour or moral panic*

There is sociological and anthropological evidence to suggest that at least some hooligan behaviour is ritualised, and pertains more to the performance of status and aggression, than actual conflict or violence (Marsh and Harré, 1978). For instance, though football deaths do occur, there tend to be minimal injuries in confrontations due to organised, rule-led conflict (Potter and Wetherell, 1987). Potter and Wetherell suggest that submissive behaviours allow hostilities to end whilst maintaining both personal and group honour through ritualised chases. From an evolutionary perspective, this kind of intra-sex conflict strategy is perhaps reminiscent of ritualised displays in other species, e.g. rutting in stags. Potter and Wetherell argue that fans know that the behaviour is unlikely to be truly dangerous, rather it reproduces media exaggerations and maintains hooliganism as an exciting, yet safe, domain, which the authors describe as a functional rhetoric. This may explain some hooligan behaviour, but does not explain its origins or why individuals actually find the behaviour exciting or engaging in the first place.

Developing Potter and Wetherell's argument about the media's role in the proliferation of hooliganism, there's also the view from Redhead (2008) and Armstrong (1998) that hooliganism, rather than posing a societal threat, is really

mass media hysteria and a moral panic. However, football - once the English disease - is now more like 'a cold sore', flaring up every so often (Ingle, 2013) and the moral panic account is now dated, having been established before many modern hooligans were born.

Traditional Marxist accounts for British hooliganism (Taylor, 1971) are now widely rejected (Dunning, 2000). Instead, two related explanations tend to be favoured: first, the idea that hooliganism has a negative impact on club finances, leading both clubs and fans to reduce hooliganism (Jewell et al., 2014); and second, the well-documented correlation between improved stadia management and decreased reported hooliganism (Cleland and Cashmore, 2015). Stadia management techniques include seated stadia, the use of turnstiles, more CCTV, and guards (but not necessarily police) lining the pitch. However, the core elements of football hooliganism, and specifically inter-group violence, still exist on the global stage. The next section considers the violent outcomes of extreme fandom in Brazil, the setting for this chapter's study.

### **8.1.2 Football violence in Brazil**

Football-related group violence is particularly prominent in Brazil, a country with one of the highest homicide rates in the world (Steeves et al., 2015). For instance, in Brazil, more people died as a result of fire-arm homicides than the combined total of the 12 biggest armed conflicts in the entire world during the same period, and two of every five Brazilian male aged 15-24 die as the result of a homicide (Steeves et al., 2015). As such, football-related violence is an acute threat to football fans in Brazil. Not only does conflict within football take place against a backdrop of violent inter-group clashes and gang violence, but deaths relating to football-conflicts specifically have escalated in recent years (Raspaud

and da Cunha Bastos, 2013): from 14 deaths 1999-2003 (a four year period) to 14 deaths in just a year 2007-2008 (see 8.1.1) (Raspaud and da Cunha Bastos, 2013). As a result, Brazilian law dictates that in some cities opposing fans cannot be seated together or even attend matches. Physical barriers alleviate some of the football-violence tragedies, but they do not tackle the underlying mechanisms that prompt such wide-scale conflict.

In contrast, deaths from football-related violence do not appear to have been recorded by a governmental source in the UK, though research on football-related deaths at matches across the globe for the period 1900-2012<sup>47</sup> has been conducted by Alsiö (2013), an independent football historian. His statistics suggest that in the UK deaths relating to football violence are isolated to three relatively well-known incidents. First, and most recently, the death of 2 fans when Leeds fans fought Galatasaray SK fans at a UEFA semi-final match (2000). Second, the deaths of 39 fans at an international game between Juventus and Liverpool (1985), just four years before Liverpool's Hillsborough disaster where 96 fans were killed due to over-crowding. The former disaster led to a five-year international ban for English clubs. Finally, the deaths of 66 fans at a derby match between Rangers – Celtic match (1971), though this was in part due to a barrier collapsing. There may be further instances of football-related violence leading to death outside of matches but these are likely to have been covered by the media and have been included in Alsiö's results.

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<sup>47</sup> This period does not include the 2016 World Cup clashes between English, Russian and, to a lesser extent, German and French fans. Although no fans were reported to have died in the clashes, at least 35 were injured, the majority of whom were English. OUGH, T., MORGAN, T. & CRIDDLE, C. 2016. *Euro 2016: Uefa threatens to disqualify England and Russia amid German and Ukraine violence in Lille* [Online]. The Telegraph. Available: <http://www.telegraph.co.uk/football/2016/06/12/euro-2016-uefa-investigate-violence-between-england-and-russia-f/> [Accessed 2nd January 2017].

It seems unlikely that the fans engaged in these violent behaviours are engaging in a safe 'functional rhetoric', to return to Potter and Wetherell. Although the observations derived from sociological and anthropological research may be informative, they do not address the psychological underpinnings of extreme fan violence or of inter-group conflict more broadly.

### **8.1.3 What Motivates Fan Violence?**

A common explanation for hooliganism, often promulgated by the media, is that it is a result of social maladjustment. This notion has a long history in sports psychology and has some evidential support (Lawther, 1972; Zani and Kirchler, 1991; Wakefield and Wann, 2006). For instance Zani & Kirchler (1991) found in a large Italian sample that football-related violence and the acceptance of these behaviours was greater among unemployed, poorly educated fans who attributed their violence to external factors. Similarly, Wakefield & Wann (2006) found that fans who scored highly on their scale of 'fan dysfunction' were more likely to have lower incomes, less education, and be absent fathers or childless. Although these studies did not utilise a scale of social adjustment, they paint a picture of fans engaging in violent acts due to personal frustrations (Priks, 2010) or a sense of 'anomie' (Bodin et al., 2004; Dunning et al., 2014) rooted in constructs of class and/or masculinity (Dunning et al., 1986; Taylor, 1987; Dunning et al., 2014).

Lacking in these accounts is a testable theory of how exactly maladjustment leads to hooliganism. Parochial prosociality provides an alternative and potentially more compelling explanation (Choi and Bowles, 2007; Sheikh et al., 2014). It is clear that football-related violence comprises an inter-group conflict element. The literature surrounding this topic contains a

recent and growing body of evidence suggesting that extreme actions are motivated by a parochially prosocial source: identity fusion (Swann et al., 2014b; Buhrmester and Swann, 2015; Atran, 2016; Bortolini et al., Under Review).

We propose that football-related violence is motivated by fusion with one's fellow supporters, rather than social maladjustment. Specifically, we argue that the violence associated with football hooliganism is a pro-social, defensive reaction to protect ingroup brethren (Swann et al., 2014a; Whitehouse et al., 2014; Buhrmester et al., 2015; Abou-Abdallah et al., 2016). While past work has shown that fusion with a group is sufficient to produce pro-group action, other elements of group membership may be required to produce the particularly strong pro-group, violent acts that are found in certain highly fused groups (Swann et al., 2010a; Whitehouse et al., 2014; Sheikh et al., 2016).

For instance, we might imagine that highly fused members of groups that experience low levels of threat would be less likely to behave violently than those who perceive high levels of outgroup threat. In a football context, the 'super fan' organisations, such as Brazilian *torcidas organizadas*, provide ample opportunities for fused group members to engage in bloody conflict with outgroups. Membership to a *torcida organizada* entails persistent reminders of rivalries and the threats that one's rivals pose to the group's material successes, reputation, and security (de Toledo, 1996; Pimenta, 2000).

Such threats are both real and imagined and constitute a pervasive aspect of *torcida organizada* identity. In Brazil, threats from football rivals are acute and even life threatening (see 8.1.1) (Murad, 2013; Raspaud and da Cunha Bastos, 2013). We therefore designed a study to explore whether hooligan acts (both past reports of football-related violence and endorsements of fighting/dying for

one's fellow fans) were best explained by an interaction between *torcida organizada* membership and fusion to fellow fans. We predicted that fans who (a) were in a *torcida organizada* and (b) scored highly for fusion would be especially likely to report past violence and endorse future fighting/dying. We also predicted that participants' scores on a social adjustment scale would be unrelated to fusion or hooligan status (either membership in a *torcida organizada*, past reports of football-related violence, or willingness to fight and die for one's fellow fans).

Theories of football-related violence must specify the motives of those who commit violence on behalf of their group. We hypothesize that for some fans, football generates a sense of belonging that connects self with others, and group with stadium or territory. What triggers some fans to engage in more costly forms of group commitment, such as fighting and killing in the name of one's football club? The next section proposes that these behaviours reflect a more porous boundary between personal and social selves coupled with high levels of perceived outgroup threat.

#### **8.1.4 How identity fusion theory can improve our understandings of football hooliganism**

For persons who feel strongly fused to a group, group activity is intensely *personal*, leading to increased feelings of agency, invulnerability, and kinship in group contexts (Swann et al., 2012; Bortolini et al., Under Review). As a result, highly fused individuals are particularly likely to put their lives at risk to save ingroup members when threatened (Swann et al., 2010a; Swann et al., 2010b; Swann et al., 2014a; Swann et al., 2014b) and provide financial and socio-

emotional support to needy ingroup members (Swann et al., 2010b; Buhrmester et al., 2015).

Previous research in the Middle East has found that highly fused individuals are more likely to engage in combat on behalf of or in the name of the group (Whitehouse et al., 2014; Atran, 2016; Sheikh et al., 2016) but the theory has not yet been applied to a sports domain. Sports fandom, particularly football, is an especially relevant context to investigate the relationship between fusion and extreme pro-group behaviours, such as physical violence because: (a) it appears globally; (b) there is substantial variation in behaviour among fans, e.g. between 'regular' fans and 'hooligans'; (c) it extends previous research on the relationship between identification and outgroup hostility in sports fans (Wann et al., 1999; Donahue and Wann, 2009) and; (d) it extends previous fusion research on military, paramilitary, and radical groups (Buhrmester and Swann, 2015).

If violence among football hooligans is driven by fusion, we would expect it to be discriminatory and triggered by the presence of a group threat, i.e. fusion-driven violence will be targeted at specific outgroups. Indeed, recent research has shown that fusion predicts outgroup hostility, and increased hostility under conditions of threat, among Israeli citizens (Fredman et al., 2017). Outgroups are made continually salient for football fans and particularly members of hooligan organisations. This is because if the group is threatened, due to the merging of personal and social selves, the individual perceives this as an attack on both group and self, and is likely to engage in a hostile stance. Rather than acting out indiscriminate violence, we predicted that *torcida organizada* members target specific outgroups, i.e. rival fans, and that this effect

is also moderated by fusion. In contrast, regular but violent fans will report engaging in violent conflicts with a range of antagonists, e.g. rival fans, the police, fans of their own team, family members. We also predicted that *torcida organizada* members are motivated by fusion to fellow fans (i.e. the *brothers in brothers in arms*), but not primarily fusion to the club (i.e. players and abstractions that are *not* directly one's brothers in arms).

#### *Non-violent pro-social outcomes*

If hooliganism is driven by an extreme pro-group mentality could it be harnessed for more socially desirable outcomes? Within football culture, some fans already recognise this potential. For instance, according to Rookwood and Pearson (2012), a substantial number of British football fans can be described as 'hoolifans' – a term used to describe regular fans who support their team's hooligans. Rookwood and Pearson report that hoolifans justify their support of hooligans because: they distract the opposition during games; they are protective of their club's regular fans and may defend them against rival hooligans; and they can enhance the group's reputation in various ways, such as by leading pyrotechnic displays or gaining the club a reputation of being 'hard' or unbeatable. Furthermore, in the same study some regular fans who were generally critical of hooliganism were found to laud such behaviours under certain cultural circumstances. These included derby days or after a perceived miscarriage of justice, i.e. when the group's needs out-rank their individual needs. Perhaps hooligans, if they are more highly fused, also experience group needs more urgently, resulting in more extreme behaviours.

One non-violent way of displaying group commitment in football is regularly attending away matches – sometimes travelling long distances, even

half way around the world, to support one's club at great personal cost. For example, around 30,000 Corinthians fans from Brazil travelled halfway across the world to support their league-level club in the FIFA Club World Cup – fans quit their jobs, sold their cars, and even their fridges to attend the match (Montague, 2012; Goddard and Sloane, 2014). As football matches tend to be largely attended by home supporters (particularly when there is a greater distance to cover), these matches can be particularly intense for the away supporters. Attendance at away matches is also thought to improve the team's chances via increased crowd noise and influencing referee decisions (Nevill et al., 2002). Finally, we also sought to test whether *torcida organizada* members reported attending more home and away matches than regular fans, and whether fusion influenced this relationship. In a novel measure, we also tested whether highly fused *torcida organizada* members would volunteer more on a 'time for money' computer-based task to earn money for an ingroup member.

## 8.2 Hypotheses

H1: Scores on a social maladjustment scale are unrelated to past reports of football-related violence, willingness to fight/die, and membership in a *torcida organizada*.

H2: Instead, hooligan acts (both past reports of football-related violence and endorsements of fighting/dying for one's club) are best explained by an interaction between *torcida organizada* membership and fusion to fellow fans.

H3: The relationship between fusion and willingness to fight and die / physical violence is mediated by psychological kinship.

H4: *Torcida organizada* members are motivated by fusion to fellow fans (i.e. the *brothers in arms*), but not primarily fusion to the club (i.e. players and abstractions that are *not* directly one's *brothers in arms*).

H5: Fused *torcida organizada* members are especially likely to report violence against *rival team fans*, but not toward other targets (e.g. the police), suggesting that 'brothers in arms' are primarily battling opposing soldiers.

H6: Pro-group *torcidas organizadas* activities are not only violent: they also attend more matches, including costly away matches, and are more likely to engage in personally costly activities that benefit other group members, i.e. in a 'time for money' task.

### **8.3 Methods**

For this study, we focused on Brazilian football fans of all major leagues. Our Brazilian partners distributed a 20-40 minute, anonymous, online questionnaire via their contact bases from previous studies in a psychology subject pool and in a sports research department that has direct access to the Minerão stadium in Belo Horizonte and surrounding fan groups, as well as on social media. The sample consisted of regular Brazilian football fans and members of *torcidas organizadas*. This resulted in a two-prong technique of directly contacting past participants and recruiting via a snowballing technique.

Ethical approval was obtained from the School of Anthropology and Museum of Ethnography Research Ethics Committee (SAME REC) in accordance with the procedures laid down by the University for ethical approval of all research involving human participants. Participants were told they could win one of three football jerseys of their club. This prize complied with Brazilian ethical regulations concerning no direct payment for participation in research. Participants provided electronic informed consent by checking boxes on a screen in a similar fashion to check boxes on a printed document. Consent was recorded in the survey software and participants could not proceed to the main survey without reading and checking the consent pages.

### *Participants*

Of the 465 participants ( $M_{\text{age}} = 25.67$ ,  $SD = 7.75$ , range = 18-63), 54.4% reported their sex as male (5.6% female); 40% did not declare their sex, largely because demographic measures came at the end of the task and this survey suffered from attrition (see 8.6 for limitations). Fans were from a range of states across Brazil, mixed educational backgrounds, and had a range of incomes (Table 8.1). There was some racial variation in the sample, though the majority of participants were white (Table 8.1). Aside from males reporting more violence and willingness to fight and die than females, demographic variables were not found to contribute to our outcomes of interest (Appendix I1). Just under half of the participants ( $N = 205$ , 44.1%) reported being a member of, or participating in, a *torcida organizada*.

Table 8.1  
*Demographic variables (region, education, race, and income) by percentage*

<b>Region</b>						
São Paulo	Minas Gerais	Paraná	Rio de Janeiro	Rio Grande do Sul	Other regions (< 3%)	Missing
31.4	9.5	3.9	3.4	3.4	8.2	40
<b>Education</b>						
Middle school	Senior school	Graduate school	-	-	-	Missing
27.7	23.3	8.6	-	-	-	60
<b>Race</b>						
White ( <i>branca</i> )	Brown ( <i>parda</i> )	Black ( <i>preta</i> )	Yellow ( <i>amarela</i> )	Indigenous	Prefer not to say	Missing
73.8	15.8	4.7	1.1	1.8	2.9	40
<b>Income (R\$)</b>						
< 788	789-2364	2364-2940	2941-2940	4830	-	Missing
0.9	9.9	13.8	8	26.7	-	40.9

The online survey consisted of three sections: football-related questions and psychological measures; a behavioural; and finally a social-adjustment test (SAS-RS) and demographics. As the behavioural task was quite lengthy, only 271 participants of 465 completed the SAS-RS (58.28%). We used responses to the questions in Section 1 of the study (psychological measures) to compare participants who completed the SAS-RS and those who dropped out. We found no reason to believe that those who completed the survey were categorically different from those who did not complete these demographic measures and the SAS-RS (Appendix I2). The next section presents the measures that were used in each section.

### *Measures*

#### Section 1: Psychometric

Items were presented in the following order:

We first asked participants which team they supported and whether they were a member of, or participated in, any *torcidas organizadas* and how often they attended home and away games (*never, once a year, several times per year, several times per month*). We also asked participants whether they had ever engaged in any football-related violence: *Have you ever been involved in fights related to football [yes/no]*. If participants reported engaging in physical violence, we also asked who these fights were with (*rival torcidas organizadas, police, other torcidas organizadas supporting one's own team, 'other'* [participants could insert text if they selected 'other']).

Willingness to fight and die for fans of one's team was assessed using the 7-point Likert scale from -3 (*strongly disagree*) to 3 (*strongly agree*) (Swann et al., 2009) ( $\alpha = .76$ ) adapted in (Bortolini et al., Under Review) (see Appendix C for validated scales). Identity fusion was assessed using the 7-point verbal scale (Gómez et al., 2011) in reference to the individual's preferred club ( $\alpha = .77$ ) and fellow fans ( $\alpha = .76$ ) using the translations in Bortolini et al. (Under Review). Psychological kinship was assessed using the 3-point verbal scale fans ( $\alpha = .90$ ) (Buhrmester et al., 2015), again using Bortolini et al.'s translations.

### Section 2: Behavioural

In the second part of the study, we tested helping behaviour. Fans were told that the task was optional and they could leave at any time. In this task fans could opt to spend time on a boring, repetitive task to anonymously earn money for either an ingroup member (fellow fan) or an outgroup member (someone who does not support a team) who we would select from our extensive pool of past participants from football and other studies (Appendix I3). Based on a helping task outlined in Danilov and Vogelsang (2016), participants had to remember a simple code and type it into a text box then wait for a timer countdown to accumulate R\$0.50 for either the fans or the non-fans. After each level, participants were shown how much they had earned so far and given the opportunity to return to the main task, up to a maximum of 21 trials. The order in which the fan and non-fan pools were presented was randomised.

### Section 3: Demographics and SAS-RS

Finally, in the third part of the study, we asked demographic measures and included a version of the self-reported Social Adjustment Scale (SAS-SR)

(Weissman and Bothwell, 1976) validated into Brazilian Portuguese (Gorenstein et al., 2002). The SAS-SR is a 54-item self-report measure of the individual's social relations and performance at work, in social activities, and with family during the previous two weeks. The questions within each area cover four expressive and instrumental categories: performance at expected tasks; the amount of friction with people; finer aspects of interpersonal relations; and feelings and satisfactions. Each item in the SAS-SR is scored on a 5-point scale, the higher scores being indicative of greater impairment. It is a widely used and well-validated measure of social adjustment (Weissman, 1999). The SAS-SR comprises a number of sub-scales, of which only relevant categories are presented to the participant: work; school/education; spare time; single life; family life; interaction with partner; children; and marriage (see Appendix I4 for correlations with our main variables of interest).

## **8.4 Results**

### **8.4.1 Descriptive statistics**

Descriptive statistics are provided for our main variables of interest in Table 8.2. Skew and kurtosis were normal for all variables (-.10 to 1.8, SE = .11 to .30)<sup>48</sup>.

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<sup>48</sup> Note that as with fusion rates to nation and national team in Chapters 6 and 7, fusion to club was higher in the Brazilian context ( $M = 4.81, SD = 1.59$ ) than in the British contexts from either Chapter 4 ( $M = 4.31, SD = 1.22$ ) or Chapter 5 ( $M = 3.88, SD = 1.38$ ). Also note that for both the present chapter and Chapter 5, fusion to club was higher than fusion to fans (fusion to fans in Chapter 5:  $M = 3.51, SD = 1.39$ ).

Table 8.2

*Descriptive statistics and correlations for identity fusion, fight and die, football-related violence (binary variable), score on the social adjustment scale, and psychological kinship*

<b>Variables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1. Fusion (fans)	3.60 (1.61)					
2. Fusion (club)	.57 (<.001)*	4.81 (1.59)				
3. Fight & die	.50 (<.001)*	.31 (<.001)*	-1.39 (1.39)			
4. Violence	.28 (<.001)*	.14 (.003)*	.48 (<.001)*	n/a		
5. SAS-SR	.06 (.330)	.03 (.634)	.06(.328)	.01 (.900)	6.89 (.76)	
6. Psych. kinship	.77 (<.001)*	.44 (<.001)*	.56 (<.001)*	.35 (<.001)*	.06 (.342)	3.87 (1.97)

*Note:* Means and SD (in parentheses) on the diagonal, Pearson's *r*'s and *p*-values (in parentheses) below the diagonal.

\**p* < .05

Nearly a quarter of the total sample reported having engaged in football-related violence but, as shown in Table 8.3, there were striking differences between regular fans and *torcida organizada* members in terms of reported violence, endorsement of fighting and dying for one's group, and fusion. To ensure that self-selection was not accountable for our results, we checked the Q-Q plots for fusion between *torcida organizada* members and regular fans (Appendix I5). We found these to be close to normal.

Table 8.3

*Torcida organizada and regular fans' reports of physical violence, fight and die, social maladjustment, and fusion to fans,*

Variable	Statistic	Fan type	
		Regular	TO
Physical violence*	No	88.1% (229)	59.0% (121)
	Yes	11.9% (31)	41.0% (84)
	Chi-square	$\chi^2 = 51.97, p < .001, \phi = .33$	
Fight & die*	M (SD)	-1.96 (1.09)	-.67 (1.39)
	t-test	$t = -11.30, p < .001, \text{Cohen's } d = 1.00$	
SAS-SR	M (SD)	4.00 (.40)	4.00 (.40)
	t-test	$t = -.01, p = .993, \text{Cohen's } d = 0.00$	
Fusion*	M (SD)	3.09 (1.49)	4.23 (1.53)
	t-test	$t = -8.08, p < .001, \text{Cohen's } d = .75$	

\* $p < .05$

For the two non-violent outcomes, we found significant differences in match attendance, but no difference in time-based helping behaviour between regular

fans and *torcida organizada* members (Table 8.4). We also found that match attendance correlated with fusion, while our measure of helping behaviour did not (Table 8.5).

Table 8.4

*Torcida organizada and regular fans' time spent helping ingroup (fellow fan) and outgroup (non-football supporters) members and match attendance (home / away)*

Variable	Fan type	
	Regular	T0
Ingroup helping		
M (SD)	3.28 (5.30)	2.48 (4.96)
t-test	$t(299) = 1.33, p = .184, \text{Cohen's } d = .16$	
Outgroup helping		
M (SD)	1.21 (2.61)	.90 (2.31)
t-test	$t(299) = 1.09, p = .278, \text{Cohen's } d = .13$	
Home attendance*		
M (SD)	3.94 (1.15)	4.66 (.72)
t-test	$t(463) = -7.78, p < .001, \text{Cohen's } d = .75$	
Away attendance*		
M (SD)	2.33 (1.35)	3.62 (1.21)
t-test	$t(463) = -10.88, p < .001, \text{Cohen's } d = 1.00$	

\* $p < .05$

Table 8.5

*Descriptive statistics and correlations for identity fusion, match attendance, helping behaviours*

Variables	1	2	3	4	5
1. Fusion (fans)	-				
2. Home matches	.24 (<.001)*	4.26 (1.05)			
3. Away matches	.38 (<.001)*	.48 (<.001)*	2.90 (1.44)		
4. Ingroup helping	-.03 (.620)	-.03 (.563)	-.07 (.230)	2.94 (1.08)	
5. Outgroup helping	-.04 (.504)	-.09 (.140)	-.09 (.123)	.56 (<.001)*	1.08 (2.49)

*Note:* Means and SD (in parentheses) on the diagonal, Pearson's  $r$ 's and  $p$ -values (in parentheses) below the diagonal.

\* $p < .05$

#### 8.4.1 Hypothesis testing

**H1: Social maladjustment is unrelated to past reports of football-related violence, willingness to fight/die, and membership to a *torcida organizada***

*Analysis:* To investigate whether social maladjustment was related to football-related violence and *torcida organizada* membership we conducted a series of regressions. We used the SAS-RS as the independent variable and conducted a linear regression with fight and die as the dependent variable, and two logistic regressions with violence and *torcida organizada* membership as dependent variables respectively<sup>49</sup>.

<sup>49</sup> We then re-ran these analyses and all subsequent analyses including a measure of identification (Appendix I6). In all cases, the effects of fusion on outcome variables remained significant and in no case were effects of identification equal to or stronger than effects of fusion.

*Results:* The hypothesis was supported. There were no evidence to suggest that regular fans were better socially adjusted than members of *torcidas organizadas* (Table 8.3), nor was there evidence for social maladjustment contributing to violence, a willingness to fight and die, or membership to a *torcida organizada* (Table 8.6).

Table 8.6

*Linear (1) and logistic (2-3) regressions with SAS-RS as the independent variable and fight & die, physical violence, and TO membership as the dependent variables*

Model	B	S.E.	Wald	p	Odds Ratio	95% CI
1. Fight & Die	-.09	.21	-	.682	-	-
2. Physical violence	-.28	.26	.61	.433	.76	.37, 1.53
3. TO membership	-.003	.311	<.001	.993	1.00	.54, 1.84

*Note:*

Model 1:  $R^2 = .001$ ,  $F(266, 1) = .17$ ,  $p = .682$

Model 2: Nagelkerke  $R^2 = .003$ ,  $\chi^2(1, 268) = .611$ ,  $p = .434$

Model 3: Nagelkerke  $R^2 < .001$ ,  $\chi^2(1, 268) < .001$ ,  $p = .993$

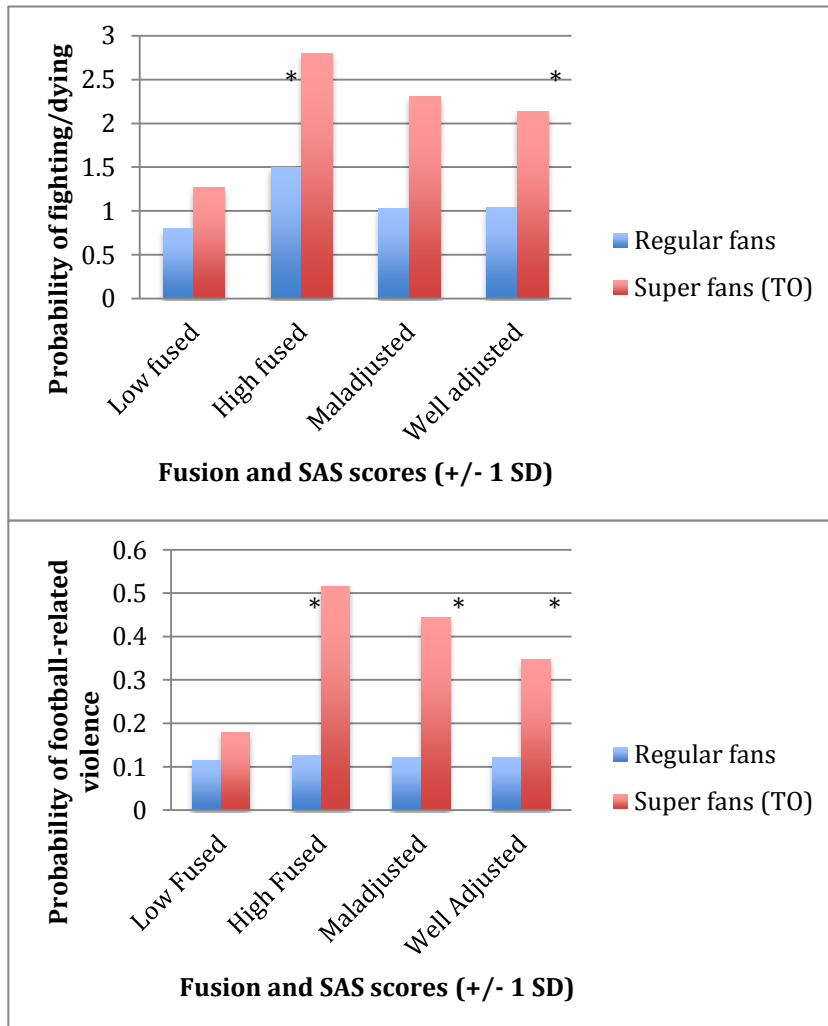
**H2: Hooligan acts (both past violence reports and endorsements of fighting/dying) are best explained by an interaction between *torcida organizadas* membership and fusion to one's club fans.**

*Analysis:* To investigate whether fusion moderated the relationship between physical violence and membership to a *torcida organizada* we ran a simple moderation analysis. We used ordinary least squares path analysis in Hayes's PROCESS macro (Model 1) for SPSS (Hayes, 2013) with bias-corrected bootstrap analyses based on 5,000 bootstrap sample.

*Results:* In support of the hypothesis, we found that highly fused *torcida organizada* members were the most likely to report past violence and endorse fighting and dying for other fans. Fusion ( $b = .24, p = .006$ ) and *torcida organizada* membership ( $b = 1.26, p < .001$ ) both predicted physical violence, however, these main effects were qualified by their 2-way interaction ( $b = .46, p = .006$ ). Simple slopes analyses revealed that when fusion was low ( $-1SD$ ), there was not a statistically significant effect of membership on violence,  $b = .52, SE = .39, z = 1.34, p = .180$ . When fusion was high ( $+1SD$ ), there was an effect of membership on violence,  $b = 1.99, SE = .37, z = 5.43, p < .001$ , such that highly fused *torcida organizada* members were especially likely to report physical violence (Fig. 8.1, next page). Fusion ( $b = .33, p < .001$ ) and *torcida organizada* membership ( $b = 0.89, p < .001$ ) also predicted willingness to fight and die for fellow fans, however, these main effects were qualified by their 2-way interaction ( $b = .26, p < .001$ ). Simple slopes analyses revealed that there was a statistically significant effect of membership on violence when fusion was low ( $b = .47, SE = .16, t = 2.87, p = .004$ ), but especially so when fusion was high ( $b = 1.31, SE = .15, t = 8.71, p < .001$ ). These analyses suggest that strongly fused *torcida organizada* members are particularly likely to endorse fighting and dying for their group (Fig. 8.1). Overall, these results suggest that in our sample, hooligan acts (both past violence reports and endorsements of future fighting/dying for one's club) are most likely to occur amongst highly fused fans involved in *torcidas organizadas* and that social maladjustment is unrelated to hooligan acts.

Fig. 8.1

*Interaction plots for torcida organizada status (IV) predicting football-related physical violence and willingness to fight and die with fusion to fans as a moderator (fight and die shown here on a 1-7 scale)*



**H3: The relationship between fusion and willingness to fight and die / physical violence is mediated by psychological kinship.**

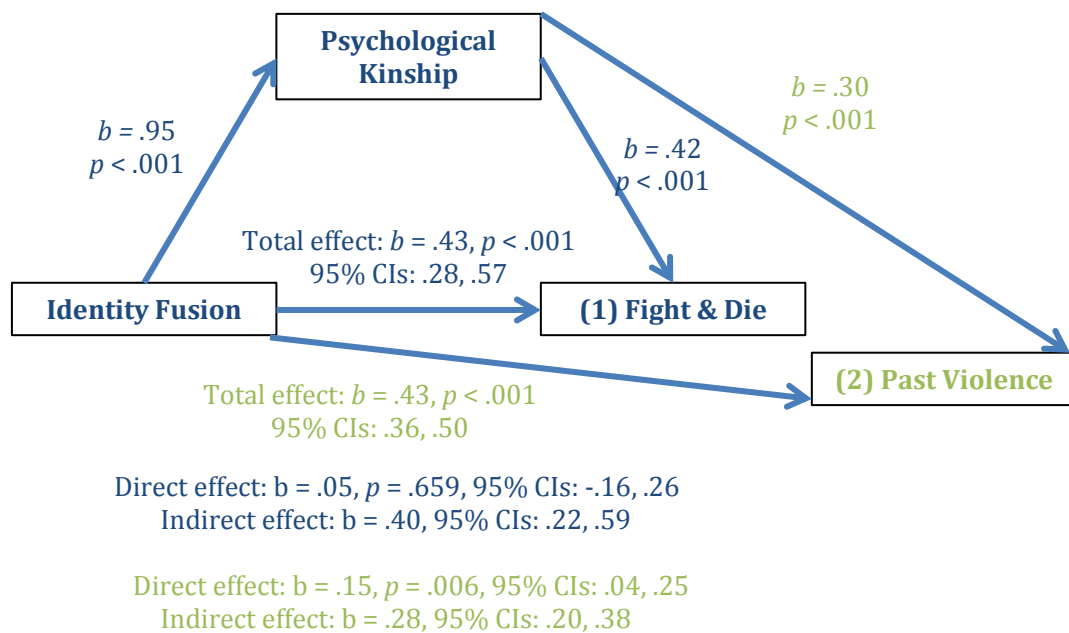
*Analysis:* To test whether psychological kinship mediated the relationship between fusion and either willingness to fight and die or past reported physical violence, we ran two mediation analyses using Model 4. Fusion was the

predictor, fight and die / reported past violence the outcomes, and psychological kinship the mediator.

*Results:* As predicted, psychological kinship mediated the relationships between fusion and both measures of violence (Fig 8.2). There was also evidence of a direct effect of fusion on reports of past violence, but not on endorsement of future willingness to fight and die.

Fig. 8.2

*Mediation analyses with fusion as the predictor, fight and die / reported past violence the outcome, and psychological kinship the mediator*



**H4: Fusion predicts football-related physical violence, but fusion to fans is a better predictor than fusion to club**

*Analysis:* To examine whether the same effects would emerge with a related but different type of football fan bond - fusion to the *club* (i.e. categorical ties rather

than relational ties to fellows fans) - we ran the Model 1 analyses again, this time substituting in the fusion to club variable for the fusion to fans variable.

*Results:* Our results supported the hypothesis and in both models, the interactions were not significant ( $b = -.19, p = .253$ ;  $b = .12, p = .093$ ). This suggests that football violence is better understood as an interaction between super fan group membership and fusion to *fellow fans* rather than fusion to club (see 8.5.1 for a discussion of relational vs. categorical ties).

#### **H5: Highly fused *torcida organizada* members are most likely to engage in physical violence toward rivals**

*Analysis:* To investigate the effects of fusion and *torcida organizada* membership on past violence toward specific targets participants were asked to select whether they had fought against fans of a rival team, the police, fans of their own team, or an 'other' category. We then explored the interaction term *torcida organizada* membership x fusion to fans by running Model 1 in relation to the outcome variables.

*Results:* The hypothesis was broadly supported. While 92.9% of violence-reporting *torcida organizada* members reported violence toward rival fans, just 61.3% of violent fans who were not members of a *torcida organizada* reported rival fan violence (Table 8.7).

Table 8.7

*Differences in target of football-related violence between torcida organizada members and regular fans*

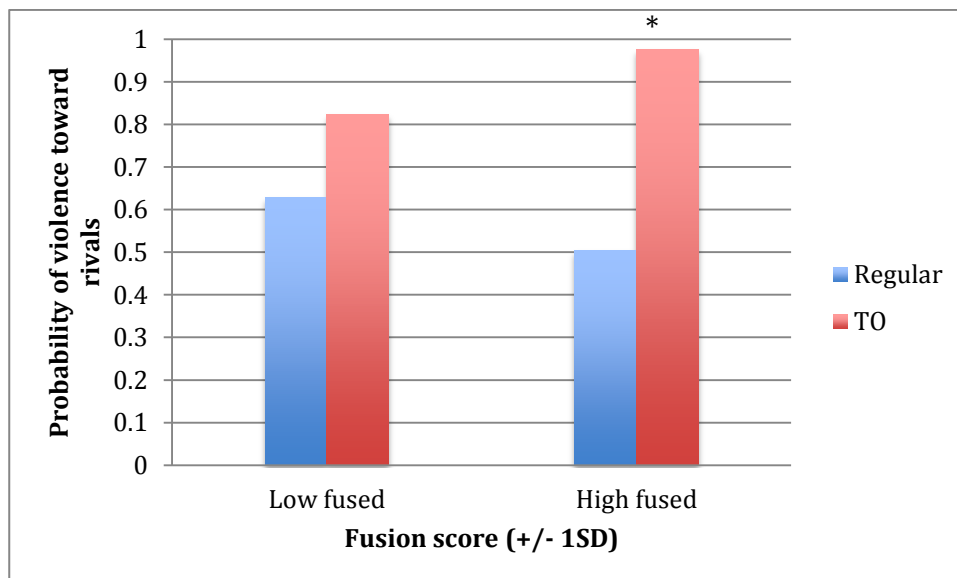
Fan type	Fight rival fans*		Fight police		Fight fans of own team		Fight 'other'*	
	No	Yes	No	Yes	No	Yes	No	Yes
Regular	38.7% (12)	61.3% (19)	31.6% (6)	68.4% (13)	61.5% (8)	38.5% (5)	50% (10)	50% (10)
<i>Torcida organizada</i>	7.1% (6)	92.9% (78)	29.5% (18)	70.5% (43)	64.3% (27)	35.7% (15)	94.4% (34)	5.6% (2)
	$\chi^2 = 17.09, p < .001, \varphi = .39,$		$\chi^2 = .03, p = .863, \varphi = .02$		$\chi^2 = .03, p = .857, \varphi = .02$		$\chi^2 = 15.08, p < .001, \varphi = .52$	

\* $p < .05$

We found evidence of a main effect for *torcida organizada* membership ( $b = 2.36$ ,  $p < .001$ ) predicting outgroup violence (i.e. against rival fans), but only a marginal main effect of fusion to fans ( $b = .45$ ,  $p = .072$ ). However, the main effects were qualified by the 2-way interaction between fusion and group membership ( $b = .84$ ,  $p = .042$ ) (Fig. 8.3). Simple slopes analyses revealed that there was an effect of *torcida organizada* membership on violence,  $b = .68$ ,  $SE = .33$ ,  $Z = 2.04$ ,  $p = .042$ , such that highly fused members were most likely to report violence.

Fig. 8.3

*Interaction plot for torcida organizada status (IV) predicting violence to rival fans (DV) with fusion to fans as a moderator*



For the other targets, there were no fusion by group membership interactions (violence toward the police,  $b = .26$ ,  $p = .514$ ; fans of own team,  $b = .12$ ,  $p = .785$ ; and an 'other' category (e.g., family)  $b = .21$ ,  $p = .756$ ). There were no main effects of fusion on these other categories (police,  $b = .01$ ,  $p = .959$ ; fans of own team,  $b = .10$ ,  $p = .650$ ; and 'others',  $b = -.37$ ,  $p = .348$ ). Nor were their main

effects of *torcida organizada* membership on violence toward the police ( $b = .28$ ,  $p = .678$ ) or violence to fans of own team ( $b = -.17$ ,  $p = .831$ ), though there was a main effect of membership on violence toward 'others' ( $b = -2.24$ ,  $p = .019$ ).

### **H6: *Torcida organizada* members also engage in non-violent, costly group activities more than regular fans**

#### Match attendance

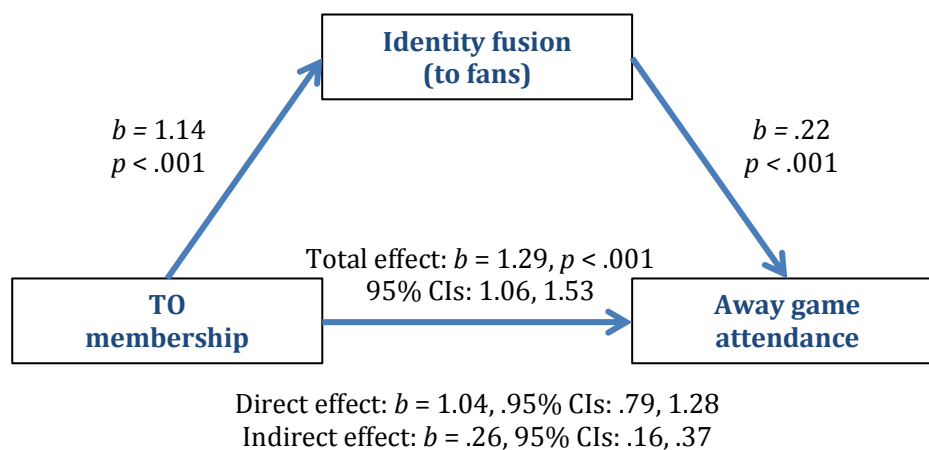
*Analysis:* First, to investigate whether *torcida organizada* members attended more home and away matches than regular fans, we ran a MANOVA with home and away match attendance as dependent variables, and *torcida organizada* membership as a fixed factor. Away match attendance generated a greater effect than home match attendance and, as explained in the introduction, is a more costly activity than home attendance. Thus we first investigated whether away match attendance was moderated by fusion. We then tested an alternative mediation model. In the latter model the outcome was away match attendance, fusion to fans the mediator, and *torcida organizada* membership the predictor.

*Results:* In support of the hypothesis, we found that highly fused *torcida organizada* members attended the most away matches. There was a statistically significant difference in match attendance based on *torcida organizada* membership  $F(2, 462) = 65.16$ ,  $p < .001$ ; Wilk's  $\Lambda = 0.78$ , partial  $\eta^2 = .22$ . Members reported attending both more home ( $F(1, 463) = 60.47$ ,  $p < .001$ , partial  $\eta^2 = .116$ ) and away matches ( $F(1, 463) = 115.23$ ,  $p < .001$ , partial  $\eta^2 = .20$ ) than regular fans. Away match attendance generated a greater effect so we

tested for a moderating effect of fusion but found no evidence of a two-way interaction ( $b = -.03, p = .691$ ). Next, we tested for mediation. As seen in Fig. 8.4, there was evidence of partial mediation and also evidence of direct effects of *torcida organizada* membership and fusion on away game attendance. In sum, the model supported the hypothesis that higher frequency of away game attendance among *torcida organizada* members is mediated by fusion to fellow fans.

Fig. 8.4

*Mediation analysis with torcida organizada membership the predictor, away game attendance the outcome, and identity fusion the mediator*



### 'Time for money' helping task

*Analysis:* We tested whether fans in general would volunteer their time to earn money for ingroup members over non-fans by running a paired samples t-test. To explore the effects of *torcida organizada* membership and fusion, we ran a further moderation analysis (Model 1) with ingroup donations as the dependent variable.

*Results:* Overall, the participants in our study exhibited an ingroup bias; to spend more time helping other fans ( $M = 2.94, SD = 5.16$ ), rather than a control group of non-fans ( $M = 1.08, SD = .14$ ),  $t(301) = 7.52, p < .001$ , Cohen's  $d = .49$ .

However, the hypothesis was not supported because there was no evidence of a main effect of *torcida organizada* membership ( $b = -.80, p = .281$ ) or fusion ( $b = -.01, p = .979$ ) on ingroup helping, nor was there evidence of a two-way interaction ( $b = .04, p = .929$ ) (see Tables 8.4 and 8.5 for t-tests and correlation coefficients). The results suggest that *torcida organizada* members and regular fans, and high and low fused fans behaved similarly in the task.

## 8.5 Discussion

Our results indicate that membership of a super-fan group, such as a *torcida organizada*, together with identity fusion, can lead to violent behaviours among football fans (Newson et al., Submitted). Previous research has used low socio economic status derived from demographic measures as indicative of a social maladjustment hypothesis. Our data suggest that, far from being socially maladjusted, football hooligans are motivated by a deep bond to their fellow fans whom they regard as their brethren. The data suggest that it is the interaction between fusion to one's fellow fans and belonging to a super fan group that serves to ignite the violent behaviours associated with football hooliganism. While fusion to other fans was a strong predictor of violence, fusion to the abstract 'club' category was not. We also found evidence that violence perpetrated by member groups tended to be directed at specific outgroups, in contrast with the more indiscriminate violence exhibited by fans unaffiliated with a *torcida organizada*. Finally, away match attendance (a personally costly, non-violent behaviour) was highest among highly fused *torcida organizada*

members, but our test of helping behaviour did not reveal any significant differences between regular fans and *torcida organizada* members.

### **8.5.1 Explaining pro-group violence among *torcidas organizadas***

At least three mechanisms potentially explain why high levels of fusion coupled with membership to a *torcida organizada* led to increased pro-group, violent outcomes in our study. First, both identity fusion and *torcida organizada* membership may together kindle a form of psychological kinship imbued with conflict and violence that results in a sense of being ‘brothers-in-arms’ (Buhrmester et al., 2015; Abou-Abdallah et al., 2016). Second, perceptions of personal and group invulnerability – a common belief amongst highly fused persons – may be further heightened in *torcidas organizadas* because these groups tend to foster a super-machismo culture, promoting self-defence and notions of territory (Gómez et al., 2011; Swann et al., 2012).

Third, *torcidas organizadas* are more likely to exist under conditions of chronic threat, compared to regular fan populations. These groups incur distinct norms and rules, rivalries, forms of social action much like college fraternities or military units. Although there is substantial cultural variation between *torcidas organizadas* – from those intertwined with violent Brazilian gang culture, to a minority of organisations that actively campaign against violence – overall, *torcidas organizadas* are undoubtedly associated with violence (dos Reis et al., 2015). Rivalries and the perception of threats form an essential part of a *torcida organizada*’s identity (de Toledo, 1996; Pimenta, 2000). In Brazil, these threats are acute and even life threatening (Murad, 2013; Raspaud and da Cunha Bastos, 2013). Thus, when a highly fused person enlists in one of these embattled group, much like in a military unit, use of force in conflict may become accepted or even

required. Future work should investigate whether membership to an embattled group who perceive themselves as under high levels of threat from opposing groups affect violent outcomes among fused members in other contexts.

### **8.5.2 Who are hooligans fused with?**

We found that fusion to fans was a stronger predictor of violent outcomes than fusion to club. Building on the work in Chapters 5, 6, and 7, this demonstrates the importance of selecting the appropriate fusion target for surveys. In this case, fusion to a highly relational group (fellow fans) predicted violence, while fusion to an abstract group (football club) did not. How fused individuals perceive the groups they belong to in terms of categorical ties (Anderson, 1983) or relational ties warrants further investigation.

As discussed in Chapter 2, Whitehouse's modes theory may be useful in providing a framework for determining target groups (Whitehouse, 2004; Whitehouse and Lanman, 2014). Although in the case of this thesis, both relational and categorical groups comprise large numbers of individuals, club fusion is clearly symbolic in a way that fan fusion is not. For the former, fans must infer that they have had shared transformative experiences with others. On the other hand, fans know (or can be more certain) that they have shared such experiences with relational group members, as they have witnessed this directly. The club target comprises management levels and group members who engage with the club in a different way from 'real' fans (e.g. economically), whereas the fan target immediately implies a shared characteristic, i.e. fandom. In this way, the categorical group or 'imagined community' of football club may be a projection of personal relational ties (e.g. experiences with a close group of individual fans, perhaps in childhood or adolescence) that relate more closely to

the imagistic mode. Swann et al. (2014a) show that when individuals perceive groups to share common characteristics, they are more likely to project familial ties on to larger groups.

In this case, fusion to club may be less relevant than fusion to fans because *torcida organizada* members may also experience these groups' broader range of operations and functions beyond football. For instance, *torcidas organizadas* may overlap with territorial gangs or neighbourhood communities (encompassing financial affairs and drug networks). Indeed, the way in which such social networks may act as a buffer against social maladjustment could be investigated further because, in certain contexts, *torcidas organizada* members may be particularly well connected and have considerable social capital.

### **8.5.3 Implications**

Our results have practical implications for efforts to prevent or reduce outgroup hostility and inter-group conflict. We found that *torcida organizada* members targeted other hooligan groups, rather than outgroups in general, e.g. the police. In contrast, regular fans who reported committing violent football-related acts did not discriminate between targets of their hostility in the same way. Past research has identified that perceived levels of threat moderate outgroup hostility (Brewer, 1999; Hewstone et al., 2002), but here we found that not only is outgroup hostility by group members targeted at discrete outgroup threats, but that this relationship between group membership and hostility to rivals is moderated by fusion. In a similar vein, members of other closely allied groups, such as gangs or terrorist cells target specific outgroups, or groups they perceive

to be a threat to the group and, if fused, consequently to themselves (Whitehouse et al., 2014; Sheikh et al., 2016).

With further research directed at better understanding the relationship between fusion and the construal of rival outgroups, we can work toward reducing the appearance of outgroup threats and the violent outcomes associated with it in violence-condoning groups. Similarly decreasing levels of fusion or membership to *torcidas organizadas* may help to reduce violence. Any programmes aimed at ‘defusing’ hooligans would need to focus on the mechanisms that give rise to fusion in the first place – such as dysphoric experience, reflection, the construction of self-defining narratives, and above all the perception that these processes are shared with the group (see Whitehouse (2013) for a clear discussion of implementing fusion based programmes). However, ‘de-fusion’ programmes would need careful ethical monitoring. Our data suggest that the extent to which one’s group is perceived to be under threat from others could be key to the outcomes associated with fusion. Rather than ‘defusing’ the group, which is theoretically and ethically challenging given the irrevocable nature of trait fusion (Fredman et al., 2015), another possibility would be to invest in non-violence condoning education that aims to reduce the high levels of threat that fan groups perceive.

Although these are possible avenues for reducing hooliganism, we also recognise the potential for high levels of fusion in *torcidas organizadas* to have positive social outcomes. Work from the social sciences already shows that there are sections of the regular fan community who value the ‘protective’ role hooligans may play at matches, so called ‘hoolifans’ (Rookwood and Pearson, 2012). This notion of ‘protection’ could be stretched to encompass the wider

community through exercises that encourage participants to recognise the transformative experiences they have shared with broader fan groups. In this way fusion has the potential to generate pro-group behaviours that are more socially acceptable, e.g. charity work. For instance, the highly choreographed displays that *torcidas organizadas* are renowned for could be investigated and potentially harnessed to extend the ingroup altruism we observed in the present sample to *generalised* prosociality, or even prosociality towards outgroup members (Reddish et al., 2016). We don't intend to romanticise the hardened world of football hooliganism, but notice a gap – globally – from which to exploit the positives of extreme group bonding in an industry as globally and financially lucrative as football.

We also propose that police tactics are framed in an understanding of the psychological mechanisms underlying football hooliganism. For instance, although the majority of violence reported by highly fused *torcida organizada* members in this study was targeted at outgroups, the police were still a target for some fans. First and unsurprisingly, brutal police tactics may serve to increase hostility toward the police by increasing perceived threat levels toward the ingroup. Second, extreme police tactics such as kettling, the use of tear gas or deployment of military personal to intervene in fan activities may create enduring, 'self-transform' experiences that only further fuse the individual to the group (Newson et al., 2016). Instead, the power of self-transformative experiences to forge group identities to reduce inter-group fighting could be investigated by asking participants to reflect on experiences shared by the broader group, i.e. football fans or the nation, and encouraging fusion with extended groups, potentially even encompassing their traditional rivals.

The Brazilian hooligans who participated in this study have counterparts across Latin America, most of Europe, and Australasia and our results speak to a global social problem. Further, football hooliganism may be representative of a broader class of destructive phenomena that are considered 'mindless destruction' by onlookers, such as the violence associated with spontaneous riots. For instance, the 2011 London riots which involved wide scale arson, vandalism, and multiple associated deaths are commonly attributed to structural causes (Lewis et al., 2011). While racism, classism, and economic decline may all play a role, so too may high fusion levels among the young males thought to have initiated the riots. If these people experienced the heightened state of invulnerability and increased agency associated with fusion (Gómez et al., 2011; Swann et al., 2012) and perceived the police shooting of a member of the community that immediately preceded the riots to be an attack on kin (Swann et al., 2014a; Buhrmester et al., 2015), then this disenfranchised group's already high levels of threat perception may have provided the lethal recipe that permitted days of destruction in the capital city.

## **8.6 Limitations**

### **Methodological limitations**

Our study is not without limitations. First, although we found support for our hypothesized model of football violence as an interaction between fusion and super fan membership, future work is needed to identify the exact mechanisms underlying these effects. We also relied on a convenience sample for our data, raising possible issues of representativeness. The survey was open to all to encourage variation and we achieved high levels of participation among a

sample of self-described 'hooligans' who, because of past encounters with law enforcement, tend to be hesitant of participating in research.

Self-selection bias is another potential limitation. Perhaps we only recruited *cooperative* hooligans who were willing to complete the questionnaire. The SAS-RS scores suggested variation in the sample, however, so even allowing for some selection bias, we still found differences between members of *torcidas organizadas* and regular fans, which may be even stronger in more natural populations. While self-selection may have been a problem with this study it is also a problem inherent in all research; even laboratory-based research is limited by which people are willing to visit a lab. By surveying as wide a cross section of Brazilian football fans as we could and working closely with local researchers we were able to identify this special population. Follow up research will need to examine these issues and rule out the possibility of poor representation in replication studies.

Broadly speaking there are problems with self-report measures, particularly concerning reputation-related questions involving violence. However, self-reports have been used in much valuable research and our data has the advantage of being a step closer to reality (i.e. our measures of violence included both hypothetical (fight/die) and actual violence items). If we had attempted to obtain records of violence via stadia or police records to reduce self-reporting, the data would have been under-representative due to a lack of reporting and a scale far greater than the police can accurately record data on. Importantly, we found associations between our measures of hooliganism and our predictor variables, though future research should attempt measures in the

field or using more accurate measures of violence, e.g. in virtual reality (Slater et al., 2013).

To test the social maladjustment hypothesis, it may also have been important to distinguish between those who had recently joined a *torcida organizada* and those that had been members for a long time by asking a question on duration of support. For instance, extreme fans who had time to develop a strong social network among their fellow fans may have been driving our effects. Although the hypothesis that fusion-motivated violence is heightened under conditions of perceived threat is already supported by (Fredman et al., 2017), we could have tested this relationship explicitly in the present study by including a measure of perceived threat. This is a promising avenue of research that could do much to inform future policy on violence reduction so further cross-cultural, naturalised studies should unpick the threat perception literature in relation to fusion. Finally, we could have included more measures to confirm that football violence among fused people is really about in-group protection or defence, rather than outgroup hate. The best example of this in the study concerns away match attendance, which is a personally costly, non-violent, social activity. Other behavioural indicators of group commitment are discussed in the next section.

#### *Behavioural measure: the 'time for helping' task*

In addition to measures of extreme pro-group violent action, we included two non-violent outcomes: away match attendance and time spent helping others. It appears that fusion does predict non-violent outcomes, but only when they are classed as more extreme. High attendance of away matches may not be as extreme as laying down one's life for the group, but it still incurs high personal

costs in terms of time, money, and emotional investment. The benefits to the group are clear to fans: showing support for one's group in times of higher need and in the presence of many outgroup members.

On the other hand, the 'time for helping' task tapped into low-level altruism. Overall, participants tended to earn more for ingroup over outgroup members so Danilov and Vogelsang's task itself could be considered to work, but it did not appear to tap into the deeply emotional connection with fellow group members associated with fusion. To achieve this in future studies we might first characterise the individual who is to receive the funds as particularly in need. For example, we might tell participants that there is a fellow fan they can choose to earn money for, who has invested everything they have in to the team (e.g. away matches and international tournaments) and recently got injured by a group of rival fans. When asked to donate a larger sum, write letters to console the participant, or even give bloody of their future operations, we would expect highly fused individuals to be particularly altruistic. An alternative would be to look at participants' past reports of helping activities or willingness to volunteer in fan activities, e.g. building community centres, writing to fans in prison, or training children to play football in the club grounds, in a similar style to charity questions used by Buhrmester et al. (2015).

Attrition was a further limitation of the present study. We obtained responses from 58.28% of our participants for the final section of the survey (demographics and SAS-RS scores). We cannot be certain how the participants who completed the final stages of the study differed from those who dropped out but there were no statistical differences in terms of fusion, *torcida*

*organizada* membership, willingness to fight and die, or football-related violence between those who completed and those who did not complete the survey.

### **Evaluating the limitations of Chapter 8**

In future, a broader sample could increase representation, e.g. by using fan mailing lists and randomly selecting participants. Future replication studies should exclude the 'time for helping' task because it does not accurately reflect the extreme pro-group mentality of highly fused individuals; instead a wider variety of pro-group actions should be questioned including past reports and endorsements of community acts. The removal of this intentionally boring task should also reduce the attrition we encountered in this study. In the future, samples of Brazilian fans and hooligans could generate richer variety and the potential for even stronger associations if we could reach harder to access populations (e.g. those without computer access and those who are less WEIRD).

### **Conclusions**

In conclusion, we found an interaction between membership to extremist fan groups (*torcidas organizadas*) and identity fusion that led to football-related violence and a willingness to fight and die for the group. Specifically, fusion to fellow fans was a stronger predictor of violence than fusion to club. We also found that violence among highly fused *torcida organizada* members was targeted at specific rivals, as opposed to the generalised violence we found among football fans who were not aligned to a *torcida organizada*. We found no evidence that social maladjustment was the cause of football hooliganism. Although we remain cautious about the generalisability of these findings, we see an opportunity in the deeply pro-social motivations of highly fused football

hooligans to create positive social change. This is discussed in more depth in the implications section of the following, concluding chapter.

## Chapter 9

### General discussion and conclusions

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Evolutionarily, sport fandom has been explained as a spandrel of hunting cognition (Morris, 1981), as an aid for determining status (Lombardo, 2012, De Block and Dewitte, 2007), and as a by-product of coalitional psychology that evolved to unify small-scale societies engaged in warfare (Winegard & Deaner, 2010). This last explanation draws on notions of 'tribal instincts' (Boyd and Richerson, 2005), which relates to the social cohesion described by researchers investigating identification among sports fans (Wann and Branscombe, 1993; Branscombe and Wann, 1994; Wann and Dolan, 1994; Wann et al., 1999; Wann et al., 2001; Wann et al., 2003; Wann and Grieve, 2005; Wann, 2006a; End et al., 2009). Nevertheless, the level of commitment shown by some football fans seems to go beyond processes of group categorisation (i.e. tribalism) and resembles the kinds of extreme pro-group psychology observed in military groups (Newson et al., Submitted; Bortolini et al., Under Review), where fighters altruistically lay down their lives for each other on the battlefield (Sheikh et al., 2014; Whitehouse et al., 2014; Sheikh et al., 2016).

Non-reciprocal altruism between non-kin presents something of an evolutionary puzzle (Trivers, 1971; Connor, 1995; Gurven, 2004). From the perspective of a 'selfish gene', it makes sense for an individual to cooperate with, or even lay down their life, for their relatives as their genes will still benefit, i.e. it makes sense to risk one's life for two brothers or eight cousins (Hamilton, 1964; West et al., 2001; Dawkins, 2016 [1976]). Indeed, one way in which costly altruistic behaviours could have evolved is via kin selection, whereby the individual foregoes opportunities to reproduce in order to maximise the

transmission of genes through surviving offspring or siblings (Hamilton, 1964). However, in interethnic and interstate conflicts, combatants readily risk or even deliberately sacrifice their own lives to protect non-kin, e.g. in conflicts between ethnic groups or nations (Mitchell, 2012, Whitehouse and McQuinn, 2012). One explanation of this is that military institutions 'hijack' an evolved predisposition for psychological kinship, which causes soldiers to treat their 'brothers in arms' as equivalent kinsmen (Whitehouse & Lanman, 2014). In general, however, natural selection should act against such 'mistakes', so long as the evolutionary advantage for recognising one's kin is not greater than the costs associated with psychological kinship (Whitehouse et al., 2017).

Whatever the evolutionary explanation for extreme self-sacrifice, we also need to establish the psychological mechanisms involved. Identification is capable of motivating ingroup bias and outgroup derogation but is not thought to be capable of overriding self-preservation (Whitehouse et al., 2013; Whitehouse and Lanman, 2014). Unlike fusion, this weaker form of social glue: does not tap into personal agency; is not irrevocable; does not involve relational ties, i.e. others are viewed under the lens of categorical ties making others anonymous group members, rather than unique individuals; and it is not associated with a porous boundary between personal and social selves, rather it reflects a hydraulic relationship between personal and social self (Swann et al., 2012; Swann and Buhrmester, 2015).

While SIT predicts that fans will distance themselves from their group following a team failure (Wann and Branscombe, 1990; Ellemers et al., 1997; Kwon et al., 2008), fusion theory predicts that these events can actually lead to more a more porous boundary between the personal and social selves (see 2.2.4

and Chapters 4 - 7). Because of this, fusion is able to tackle questions left unanswered by SIT. For instance, while pro-group action has been thoroughly studied in sports fans (Wann et al., 2001, Levine et al., 2005, Slater et al., 2013), extreme pro-group action has not yet been well accounted for. The studies in this thesis help to fill this gap in the literature by using fusion theory to account for the most extreme fan behaviours (Chapters 4, 7, and 8) and testing fusion to a range of targets (discussed in section 9.3). The use of multiple targets means that two approaches were considered: defence of a group because it itself is family (use of categorical target) and defence of a group because the *members* of that group are family (use of relational ties). So although the notion of psychological kinship is determinative in both, it becomes clear that there are many nuances to the meanings of 'group' and how group related events can be interpreted, leading to variation in reactions to these events.

In contrast to identification, *fusion* can be used to explain non-kin self-sacrifice (Swann et al., 2010a, Swann et al., 2012, Buhrmester & Swann, 2015), a key area of investigation in this thesis. This thesis has examined two key causes and two consequences of fusion. First, I examined the dysphoric pathway to fusion, including (a) arousal (Whitehouse, 1996, Xygalatas, 2008, Atkinson and Whitehouse, 2011, Whitehouse et al., 2013) and (b) a resultant sense of self-transformativeness (Newson et al., 2016, Whitehouse & Lanman, 2014). I also explored two consequences of fusion: extreme pro-group action (Gómez et al., 2011, Swann et al., 2010a, Bortolini et al., Under Review) and outgroup hostility (Whitehouse et al., 2014, Sheikh et al., 2014, Sheikh et al., 2016).

Brazil and England were selected for use as sample nations in this thesis for reasons explained in 3.2. We showed that despite an array of cultural

differences, the fundamental emotions attached to football and one's footballing comrades seem to echo across continents. As such, football fandom in Brazil and England was proposed to offer a unique opportunity to study the causes and consequences of extreme group alignment cross-culturally. As outlined in 2.3.2 and 3.2.1, this thesis speaks to the importance of WILD studies (Worldly, Independent, Local, and Distinctive; see Appendix A), in contrast to WEIRD research (Henrich et al., 2010).

Football fans are exciting not just as a globally expansive sample group (and potentially less WEIRD sample), but also for the traits they share with other highly committed groups: their deeply emotional bond with the group, a pro-group mentality, and personally costly pro-group behaviours, e.g. time and monetary investments, or engaging in inter-group conflicts. The findings in this thesis are thus especially relevant to male-dominated or male-led groups involved in ritualised collective action. These groups often play prominent roles in the social web, such as armies, military insurgent groups, or political parties (e.g. the House of Commons). Football fans generally comprise more accessible samples than other special populations, such as those listed above (the *torcidas organizadas* members in Chapter 8 are perhaps an exception to this).

By combining methodologies and using a cross-cultural sample, this thesis was able to overcome some of the WEIRD limitations of previous psychological studies into sport fandom (Branscombe and Wann, 1994, Wann, 2006, Wann and Branscombe, 1993, Wann et al., 1999, Wann and Dolan, 1994, Wann and Grieve, 2005, Wann et al., 2003, Wann et al., 2001). We also tackled a current gap in the literature on sport fandom: the causes of extreme fandom and the extreme pro-group behaviours (including inter-group conflict) associated

with it. In turn, we have found support for, and added to, both fusion and modes theories in terms of understanding the roles of self-transformativeness and emotional arousal, the potential role of physiological measures in recording the latter, and fusion's role in extreme pro-group behaviours, outgroup hostility, and inter-group conflict. This thesis contributes to our understanding of one of the greatest puzzles for researchers of human behaviour: explaining extreme cooperation beyond genetic kin groups.

## **9.1 Does shared dysphoria lead to fusion and extreme pro-group action?**

The primary objectives of this thesis were: to test the 'shared dysphoria pathway to fusion' theory; investigate the causes of extreme pro-group behaviours and outgroup hostility associated with fusion; and to do so with football fans, a natural population that is global, diverse, engages in extreme pro-group behaviours (e.g. football hooliganism), and is relatively easily accessible.

The hypotheses, results, major limitations and implications associated with each of the five data chapters are presented in the following sections. The thesis is then discussed more broadly, with a focus given to (a) major implications relating to the causes and consequences of fusion, (b) methodological benefits and limitations of the thesis, and (c) the postdoctoral work that is planned for extending the present research.

### **9.1.1 Exploring the causes of fusion with UK football fans**

We first applied the verbal fusion scale to fans of British football clubs by testing a dysphoric explanation of fusion and extreme pro-group behaviours in Chapter

4. We then tested whether the lifelong loyalty commonly associated with football fans could be explained by a sense of 'self-transformativeness' following intense, shared events in Chapter 5.

Prior to the work reported in Chapter 4 of this thesis there had not been empirical research on fusion conducted among sports fans. Could such an extreme, pro-group mentality exist in sports fans? Would football fans be willing to sacrifice their lives for fellow fans? To test fusion theory's application in a sports context that is relevant for billions around the globe, and to explain the underlying mechanisms of the construct using modes theory, we tested the following hypotheses:

H4.1: *Fusion and psychological kinship are significantly higher in fans of consistently unsuccessful teams.*

H4.2: *Intense dysphoria underlies relationships between successful vs. unsuccessful clubs and fusion/kinship.*

H4.3: *Highly fused individuals are the most transformed by the people they first shared a love of their club with (i.e. score highest for relational transformativeness), an effect mediated by psychological kinship.*

H4.4: *Highly fused fans are especially likely to sacralise club values, an effect mediated by psychological kinship.*

H4.5: *Highly fused fans are especially likely to endorse pro-group self-sacrificial behaviour, an effect mediated by psychological kinship.*

These hypotheses were assessed using a sample ( $N = 725$ ) of fans of football teams in the UK's Premier League. The results offered broad support for the thesis' main predictions. First, fusion and psychological kinship were higher in fans of the least successful teams. We also found that dysphoria (i.e. rating the

emotionally difficult of being a fan and scoring highly for emotional arousal on a qualitative task) mediated the relationship between team fate and fusion. This chapter also identified relational transformativeness (being transformed by the others one first experienced a love of the group with) as a key predictor of fusion.

In addition to causes of fusion, Chapter 3 also examined two consequences of fusion: sacred values and self-sacrificial behaviour in a trolley dilemma. High fusion scores were associated with fervently held club values and a willingness to sacrifice self for the group. Both of these effects were mediated by psychological kinship. Finally, in exploratory analyses, we found that fusion mediated the relationship between sacred values and fusion, such that highly fused people with sacred values were especially likely to endorse self-sacrificial behaviours for group members.

Future cross-cultural and experimental work that includes longitudinal measures is required to verify and extend these findings. This is initiated in Chapters 6 and 7. Chapter 4 suggests that the strength of the bond reported by highly fused football fans is powerful enough to generate the endorsement of extreme pro-group behaviours, even sacrificing one's life for other fans.

### **9.1.2 A possible rival explanation: cognitive dissonance**

Although the modes explanation of fusion has a well-established framework and the results of Chapter 4 supported this, an alternative hypothesis exists: cognitive dissonance theory (Festinger, 1957; Festinger and Aronson, 1960). In football terms, we asked the question: what if fans of the least successful teams experience dissonance regarding the time they've invested in their poor performing team and report higher levels of social cohesion to compensate for

this? To investigate alternate pathways to group loyalty in football fans, we tested the following two hypotheses:

H5.1: *While identification, past investment, and fusion all predict loyalty when individual relationships are examined, only fusion and past investment will predict loyalty when the variables are considered together.*

H5.2: *The perceptions of self-transformative events affect loyalty via fusion, rather than via past investments. Self-transformativeness may result from either euphoric or dysphoric events.*

These hypotheses were tested in a sample of British football fans from across the leagues ( $N = 146$ ). Our results supported and extended understandings of the role cognitive dissonance plays in lifelong loyalty. We found that identity fusion provides a novel explanation of group loyalty, independently of the effects of identification and past investment (i.e. years of support x team points, taken as a proxy of cognitive dissonance). This study provides further evidence that certain group events, such as key group victories and defeats, have the power to strongly transform personal identity and the relationship between personal and social identities (Buhrmester et al., 2012; Jong et al., 2015). The findings from this study are reported in Newson et al. (2016).

This chapter acknowledged the importance of accurately defining fusion targets in fusion research, as only fusion to club and not fusion to fellow fans successfully predicted loyalty to one's club. As with Chapter 4, this design was correlational and based on self-reports. There were also potential issues with timing the study and the bias toward Arsenal fans, pointing to the sensitive role football events can play in priming participants. Questions raised by this chapter included: how long does it take to be sufficiently 'transformed' by an event for it

to be able to alter fusion levels? And what is it about high-arousal events that transform us, and can we test this physiologically?

### **9.1.3 Cross-cultural experiments during the 2014 World Cup**

To test the validity of our findings when applied cross-culturally and reduce the WEIRD assumptions that are prevalent in psychological research, Chapters 6 and 7 were cross-cultural. Chapter 6 included English, Brazilian, and Spanish citizens to test national identities in relation to exiting the 2014 World Cup; Chapter 7 used a field study to recruit English and Brazilian spectators at live World Cup games in Brazil. Both of these designs were longitudinal, which enabled us to track fusion over time following dysphoric national sporting events. We also included additional ingroup bias and outgroup hostility measures.

While Chapters 4 and 5 focused on league level games, Chapters 6 and 7 tested fusion in relation to national games. Fans of the same league team may be from the same town or city (or at least have family who are from that region) and they are likely to have experienced significant team events in the same physical space, e.g. the stadium. They will have witnessed many of their peers experience the same club events that they themselves have been transformed by, even without experiencing these transformative experiences with *all* of the fans of their team individually (see 7.1.1). While league level support may be broadly relational, national games are symbolic and evince categorical ties.

#### *Fusion to nation*

In Chapter 6 we investigated how emotionally intense sporting events, such as the World Cup, may have the power to transform one's identity permanently in

ways that are associated with significant behavioural outcomes. We examined self-transformativeness and the relationships between fusion and pro-group behaviours (ingroup donations and willingness to fight and die) with the following hypotheses:

H6.1: *Overall, fusion to nation is resilient to a World Cup defeat.*

H6.2: *For some individuals fusion will increase; an effect driven by a sense of 'self-transformativeness'.*

H6.3: *Fusion predicts pro-group behaviours, i.e. ingroup donations and willingness to fight and die for the group. These effects will be mediated by psychological kinship.*

These were evaluated using cross-cultural cohorts gleaned from beyond university subject pools ( $N = 829$ ), including participants with a range of demographic backgrounds from the Global South (Brazil) and North (England and Spain), and with varied World Cup histories, i.e. high performance (Brazil and Spain) and low performance (England).

The hypotheses were broadly supported, although the study suffered from attrition. Fusion was statistically stable for all three contexts but individuals whose fusion scores increased also reported being particularly transformed by the experience of losing in the World Cup. This association seemed to be driven by English participants, perhaps because the experience was more familiar so required less time to process. This is the first direct evidence of a national sporting event promoting self-transformation. Fusion robustly predicted willingness to fight and die for one's nation, an effect mediated by psychological kinship. Ingroup biases (donations made to an ingroup rather than an outgroup) were also strongly predicted by fusion, but

this effect disappeared immediately after experiencing a World Cup defeat. English participants had a robust association between ingroup biases and fusion, perhaps due to having experienced more national football losses on such a scale, compared to Spain and Brazil. We also found that fused individuals from all three contexts had the highest measured expectations of their national team's performance, though expectations did not interact with fusion over time.

This study lacked a control or euphoric condition and did not include any measures of affect. Further questions raised by this study that are addressed in Chapter 7 include: does affect predict changes in fusion? How long does the relationship between fusion and self-transformativeness take to develop? In addition to ingroup biases, does fusion also predict outgroup hostility?

#### *Fusion to national team*

Experiencing live matches is an intensely emotional event for football fans. To overcome some of the limitations associated with online surveys (e.g. convenience or WEIRD samples), we took the experiment in Chapter 7 to the field. How do live World Cup matches affect fans psychologically and physiologically? Do these effects have a lasting impact on the personal self and alignment to one's group? In this chapter we also extended our previous findings relating to pro-group behaviours in Chapters 4 and 6 by assessing personally costly outgroup hostility among World Cup supporters. To investigate fusion to one's national team, the impact of a major sporting disaster on group alignment, and outgroup hostility, we tested the following hypotheses:

H7.1: *Fusion to national team increases following a national sporting disaster*

H7.2: *Self-transformativeness predicts individual increases in fusion*

H7.3: *Emotional arousal predicts changes in fusion:*

- a. *Self-reported affective arousal, i.e. dysphoric arousal, predicts increased fusion*
- b. *Physiological measures, i.e. fluctuations in heart rate, cortisol production, and RSA during the event predict increased fusion*

#### H7.4: *Fusion predicts personally costly outgroup hostility*

These were evaluated in a sample of Brazilian and English football supporters ( $N = 476$ ) who were invited to our field laboratory in Brazil and were approached at live World Cup games at Fan Fest sites and in stadia. Though this study suffered from bias and attrition, in contrast to the stability of fusion to nation during the World Cup (Chapter 6), we found significant decreases in fusion to national team a day and a month after exiting the World Cup.

Despite this climate of decreasing fusion, some individuals actually increased in fusion and, for them, a sense of being transformed by experiencing their team exit the World Cup. We also found that self-reported affective arousal predicted fusion. Though limited by small sample sizes, there was a trend for increased heart rate during matches predicting an increase in fusion a day after the event. Heightened cortisol production during the match also predicted fusion at T2, though not after controlling for T1 fusion, and RSA did not predict our key variables at all. However, demographic variables and attrition appeared to skew the sample. Finally, fusion predicted personally costly ingroup biases and outgroup hostility in a modified economic game (Halevy et al., 2008).

#### **9.1.4 Fusion and outgroup violence among Brazilian football hooligans**

Football-related violence occurs globally and at great societal cost. To reduce the problem, we must first understand the psychological mechanisms that promote hooliganism. Chapters 4, 6, and 7 touched on fans' endorsement of self-sacrificial

behaviour, willingness to fight and die, and outgroup hostility respectively.

However, these measures were self-reported and hypothetical. In Chapter 8 we investigated football-related violence among Brazilian *torcida organizada* members and regular fans by testing the following hypotheses:

H8.1: *Social maladjustment is unrelated to past reports of football-related violence, willingness to fight/die, and membership in a torcida organizada.*

H8.2: *Instead, hooligan acts (both past reports of football-related violence and endorsements of fighting/dying for one's club) are best explained by an interaction between torcida organizada membership and fusion to fellow fans.*

H8.3: *The relationship between fusion and willingness to fight and die / physical violence is mediated by psychological kinship.*

H8.4: *Torcida organizada members are motivated by fusion to fellow fans (i.e. the 'brothers' of brothers in arms), but not primarily fusion to the club (i.e. players and abstractions that are not directly one's brothers in arms).*

H8.5: *Fused torcida organizada members are especially likely to report violence against rival team fans, but not toward other targets (e.g. the police), suggesting that 'brothers in arms' are primarily battling opposing soldiers.*

H8.6: *Pro-group torcidas organizadas activities are not only violent: they also attend more matches, including costly away matches, and are more likely to engage in personally costly activities that benefit other group members, i.e. in a 'time for money' task.*

These were evaluated in a sample of Brazilian football fans ( $N = 465$ , 46.1% of which reported membership of a *torcida organizada*). Although this study also suffered from attrition, the results seemed to be relatively robust and indicated

that membership of a super-fan group, such as a *torcida organizada*, together with identity fusion, can lead to violent behaviours among football fans. These outcomes were also mediated by psychological kinship. We propose that these 'super' fans are more likely to perceive or exist under conditions of chronic threat compared to regular fan populations. Rivalries and the perception of threats form an essential part of a *torcida organizada*'s identity that goes beyond normal football rivalries. In Brazil, these threats are acute and even life threatening.

While fusion to other fans was a strong predictor of violence, fusion to the abstract 'club' category was not. This was proposed to be because for categorical ties (i.e. ties to club) to exist, fans must infer that they have had shared transformative experiences with others, compared to relational ties (i.e. to fans) whereby they are likely to have witnessed their peers share these experiences. Fan violence by highly fused members was directed at specific outgroups and away match attendance (a personally costly, non-violent behaviour) was also highest among these participants. Although we remain cautious about the generalisability of the findings from this study, we see an opportunity in the deeply pro-social motivations of highly fused football hooligans to create positive social change among fan groups through theory-based interventions, e.g. by encouraging charity work in the community or reducing conflict among high risk groups.

## **9.2 Fusion as a process**

In this section I discuss how dysphoric, shared experiences led to fusion in our studies using data on Premier League teams from the last ten years, and our longitudinal studies on the World Cup spanning one month and 18 months. Next,

I summarise the role self-transformativeness plays in the development of fusion and briefly discuss the roles of relational transformativeness and psychological kinship, as well as how self-transformativeness can play a role in future research and policy. The broad implication here is that we have experimentally confirmed that individuals who have processed a dysphoric event as particularly self-transformative are more likely to become fused with that group.

Dysphoric arousal was found to have a long-term impact on social cohesion in Chapter 4, as fans of the least successful Premier League clubs were also the most fused, compared to fans of the most successful clubs. Fusion was also distinct from past investment (i.e. a dissonance explanation) in Chapters 4 and 5. Chapters 6 and 7 incorporated longitudinal designs to examine more immediate effects of team defeat and provided mixed results. Although largely irrevocable (Swann et al., 2012; Fredman et al., 2015), we found that for some people fusion changes over time. However, the target under investigation (nation vs. national team) appeared to be critical to how stable fusion was in our repeat measures designs following the World Cup: while fusion to one's nation remained stable following a World Cup loss, fusion to one's national team dropped significantly. These results were consistent across cultures (England, Spain and Brazil for the nation study; and England and Brazil for the national team study). However, in both of these studies we found that the individuals who reported being the most 'transformed' by a World Cup defeat also reported the greatest increases in fusion over time. Chapter 5 also found that dysphoric self-transformative events predicted group loyalty, an effect mediated by fusion.

Why are some fans more likely to experience events as 'dysphoric' in the first place and why are some more likely to go on to report those events as being

personally transform? Although fusion measures have not been found to relate to personality or demographic traits (Swann et al., 2009), there must be individual differences that account for this variation. Future research may benefit from investigating the relationship between susceptibility for fusion and perceived 'harsh' environments. I propose that one advantage of such circumstances (Frankenhuis et al., 2016) may be a propensity to fuse to non—kin networks, which can buffer the individual in times of limited or uncertain resources. More work is also required to determine ontogenetic sources of fusion variation.

To measure emotional arousal we included psychological and physiological measures in the field study in Chapter 7. Although our sample sizes were too small to make reliable inferences, the data are encouraging for future studies. Lessons from the field, such as safeguarding against attrition, securing participants in ample time before the event, and the challenges of conducting fieldwork whilst pregnant<sup>50</sup>, all serve to improve future designs.

This thesis suggests that a sense of self-transformativeness following intense, shared events leads to fusion and group loyalty. In Chapter 2 I proposed that the cross-cultural framing of the thesis would either give support to the generalisability of findings or generate research questions as to how culture interacts with Whitehouse's dysphoric pathway to fusion theory. Based on the evidence, it appears that the findings hold across cultures – self-transformativeness predicts fusion in the UK (Chapters 5-7), Brazil (Chapter 7), and Spain (Chapter 5). With caution, the self-transformativeness component of

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<sup>50</sup> There is relatively little written about conducting fieldwork whilst pregnant and the additional logistical, physical and emotional issues that must be considered beyond a normal risk assessment. See DAVIES, B. 2016. The Pregnant Field Scientist. *Antarticglaciers.org* [Online]. Available from: <http://www.antarticglaciers.org/2016/01/the-pregnant-field-scientist/> [Accessed 24th January 2016 2017].

the dysphoric pathway to fusion appears to be a cross-cultural trait and there is no reason to assume this does not hold in other human cultures. Indeed, the adaptive power of such a causal path makes sense: members of groups that have undergone particularly harrowing experiences are likely to be those that need the highest levels of ingroup loyalty to survive, e.g. following natural disasters or warfare (see 2.2.4 for an expansion of this point).

Football, as a cultural institution, rides on the public's susceptibility for ingroup cohesiveness in response to enduring, self-transformative experiences and hijacks an evolved system for social cohesion; identity fusion. In this respect, cultural institutions such as spectator sports, just like painful initiations in tribal groups or the practice of 'hazing' in fraternities and military units, may hijack our kin psychology, making fellow sufferers appear to be more like family and motivating willingness to sacrifice self for group causes. The mass marketing seen in the top football clubs reflects their preferred method of social cohesion; a doctrinal approach, e.g. mass emblematic merchandising. Poorer performing teams may also benefit from having identified fans, but they can also take advantage of team defeats. By sharing painful losses a tight-knit, loyal 'brotherhood' is likely to emerge among those fans who perceived the events as personally transform. Be it businesses making a profit from the self-transformativeness of sports events in the billion pound sports and leisure industry, or the recognition of the importance of terrorist attacks in fusing citizens to nations or insurgents to terrorist groups, understanding the mechanisms through which people become fused to a group has significant implications at a societal level.

Shared dysphoria leads to fusion only to the extent that it transforms the personal self (Jong et al. 2015). Chapter 4 empirically identified, for the first time, the significance of relational ties in transform an individual's group identity and the enduring effect of these ties on group cohesion. Unlike the self-transformativeness derived from shared group experiences (Newson et al., 2016; Whitehouse et al., 2017), relational-transformativeness taps into relational ties by focusing on the first group members the individual experienced a passion for the group with. The data suggest that psychological kinship mediates the relationship between relational transformativeness and fusion, such that people who report being most transformed by their relational ties and report the greatest kinship with the group are also the most fused.

### **9.2.1 Consequences of fusion**

We have also considered in detail the downstream effects of fusion on behaviour. An unusually porous boundary between the personal and social selves in highly fused individuals results in the investment of personal agency into pro-group behaviour and permits fused group members to regard fellow comrades as both group members and unique individuals (Swann et al., 2012). In contrast to identification, fused individuals will not necessarily derogate an outgroup. Instead a 'mother-bear' effect is triggered when they perceive high-levels of outgroup threat (Fredman et al., 2017). In this section, I first discuss the role psychological kinship plays in fusion-driven, extreme pro-group behaviours. I then move on to the violent football behaviours we studied and the broader policy-level implications this thesis has in relation to these findings.

An important aspect of fusion's behavioural effects is psychological kinship (Whitehouse and Lanman, 2014; Buhrmester et al., 2015). In support of

Buhrmester et al. (2015), psychological kinship mediated the relationship between fusion and each of the following: self-sacrifice on the trolley dilemma (Chapter 4); sacred values (Chapter 4); and willingness to fight and die for one's group (Chapter 6). Though mediation analyses do not necessarily indicate causation, a sense that group members are like family clearly plays a crucial role in the extreme behaviours associated with fusion. We extended Buhrmester et al.'s (2014) finding that psychological kinship mediates the relationship between fusion and pro-group outcomes by working in a novel context (football fandom) and across three cultures: England, Spain and Brazil.

However, psychological kinship did not mediate the relationship between fusion and ingroup bias (Chapter 6). In this way, while low-cost pro-group behaviours may also be predicted by fusion, they seem to follow a different causal path to high-cost behaviours. With more extreme measures such as fight and die, fused individuals recognise other group members as both categorical group members and unique individuals via perceived familial ties. Less extreme measures, like the ingroup donations measure, may simply tap into the categorical ties associated with identification and not elicit a sense of psychological kinship.

The dark side to fusion is intergroup violence. As discussed in Chapter 2, ingroup love is sometimes conflated with outgroup hate (Brewer, 1999) but outgroup derogation is really a trait associated with identification, not fusion. For fused individuals, this thesis supports the 'mother-bear' account of hostility (Fredman et al., 2017). Although fused individuals are willing to fight and die for their groups (Chapters 6 and 8), exhibit ingroup biases (Chapter 6), and select personally costly hostile choices in economic games (Chapter 7), Chapter 8

showed that in natural populations, self-reported past violence among fused people tends to be toward *specific* outgroups that pose a threat to the group, e.g. rival fans.

We found that the interaction between two factors, (1) membership of an embattled group and (2) fusion to the supporters of the group, promoted a 'brothers in arms' mentality, resulting in violent behaviours. Indeed, the relationship between fusion and violence (both past violence and the endorsement of future violence) was mediated by psychological kinship. Our results have practical implications for efforts to prevent or reduce outgroup hostility and inter-group conflict. Past research has identified that perceived levels of threat moderate outgroup hostility (Brewer, 1999; Hewstone et al., 2002), but here we found that not only is outgroup hostility by group members targeted at discrete outgroup threats, but that this relationship between group membership and hostility to rivals is mediated by fusion. In a similar vein, members of other closely allied groups, such as gangs or terrorist cells also tend to target specific outgroups, or groups they perceive to be a threat to the group (Whitehouse et al., 2014; Sheikh et al., 2016).

Although there are possible avenues for reducing fusion in a bid to reduce football hooliganism, this would be challenging due to fusion's irrevocability principle (Fredman et al., 2015). Instead, we recognise the potential for the high levels of fusion in *torcidas organizadas* to have positive social outcomes. For instance, fusion has the potential to generate pro-group behaviours that are more socially acceptable by extending ingroup altruism to *generalised* prosociality, or even prosociality towards outgroup members (Reddish et al., 2016). In terms of inter-group violence, we also propose that the ways in which

the state intervenes with highly fused groups could benefit from this research. For instance, if a highly fused group perceives the state and its agents as a threat to the group, then its members are likely to have a hostile stance toward them. Police or military tactics that intimidate or physically harm such groups need careful reviewing, as the results of such interventions may function as dysphoric shared experiences that only bind the group closer together (Chapters 4 and 5). Instead, the power of self-transformative experiences to forge group identities and reduce inter-group fighting could be utilised to increase the salience of broader group identities and encourage fusion with extended groups, potentially even encompassing the group's traditional rivals, e.g. making the general football fan category salient (rather than fans of a specific club) or the nation (rather than a sub-culture).

### **9.3 Methodological contributions and limitations of the thesis**

It is important to note that the general phenomenon of extreme fandom and social cohesion among sports fans is more complicated than the measures used in this thesis suggest. As indicated in Chapter 2, membership of a fan group reflects group belongingness, territory, masculine identity, and even engenders ethnic and national identities (Taylor, 1987; Natali, 2007; Guilianotti, 2013). However, the combination of four online surveys and an experimental field study, including two longitudinal designs (plus an emergency intervention pilot), composes a solid foundation for investigating the cognition underlying these allegiances.

To test group alliance, we investigated fusion to a number of targets: to club, including one's fellow fans, in the UK (Chapters 4 and 5); to nation in England, Spain, and Brazil (Chapter 6); national team and fellow supporters

(Chapter 7) and; to club versus fellow fans in Brazil (Chapter 8). We included some relatively large samples, which were varied and, largely constituting natural groups of Brazilian and English football fans, were less WEIRD than standard psychology under-graduate pools recruited in Anglo-speaking countries. With improvements to future designs we can start to tap into the nuances of extreme fandom and group cohesion more thoroughly and produce results that are more generalisable than those presented here. This section summarises the main limitations we encountered, including: the use of self-reports; recruitment and sampling; and attrition.

Broadly speaking there are problems with self-report measures, particularly concerning reputation-related questions involving violence. These measures are potentially marred by problems of subjectivity, bias, and deliberate deceit (Podsakoff and Organ, 1986; Schwarz, 1999). Though they have been used in much valuable research, self-reports focus on participants' explicit feelings, rather than the implicit drives we are most interested in for cognitive research. Indeed, a substantial body of literature shows that the unconscious mind drives much of our thoughts, feelings and behaviours (Greenwald et al., 1998; Bargh, 2013; Jung, 2014 [1979]). As such, the self-reporting issue leaves these studies open to the criticism that the sub-conscious could be directing the conscious to, for instance, perceive a sense of self-transformativeness following a dysphoric event, when the individual hasn't actually been transformed at all. A circular claim such as this would be hard to unpick empirically, but future research should aim to falsify such claims by accessing participants' unconscious drives, perhaps in a form similar to implicit association tests.

Another issue is recruitment and sampling. Throughout the thesis there was a heavy reliance on convenience surveys and not one of the studies could be described as including a controlled, randomised sample. In part, this is due to the challenges of gaining access to less WEIRD populations of football fans (aside from the surveys carried out in Chapter 6, which used citizens rather than fans). At the start of the thesis we tried to access fan databases held by football clubs, but even this methodology would have been limited (a) only to fans that signed up to official fan clubs and (b) fans who agreed to take part in this way (self-selection bias). Though our Q-Q plots suggest that fans were well distributed across groups (Appendices E3 and I5) and we had moderate to large sample sizes ( $146 < N < 829$ ), caution is needed in generalising to broader populations and ideally the studies would be replicated using alternative sampling methodologies, e.g. collecting responses in the field before matches or random selection from databases.

Our studies all suffered from self-selection biases: the online studies were largely advertised through social media and snowballing techniques, and the field study was limited to participants who were willing to sacrifice some of their time during a significant national sporting event. For the hooligan study in Chapter 8, we may have only recruited 'cooperative hooligans' who were willing to complete the questionnaire. For the latter, the SAS-RS scores suggested variation in the sample, however, even allowing for some selection bias, we still found differences between members of *torcidas organizadas* and regular fans, which may be even stronger in more natural populations. While self-selection may have been a problem with these studies, it is also a problem inherent in all research; even laboratory-based research is limited by which people are willing

to visit a lab. By surveying as wide a cross section of football fans as we could we were able to target demographically more variable, less WEIRD populations. To overcome a self-selection effect the studies could be repeated with other populations. This would increase the generalisability of our findings. In addition, future studies could investigate ex-fans, a natural control group. With these ex-fans, we could also investigate de-fusion at least via qualitative methods, before tracking fans longitudinally to investigate long-term de-fusion.

Checking and controlling for demographic measures is one way of identifying selection biases. The age range and mix of educational backgrounds in these studies was broadly representative of football fans. There were various associations between age, education, and our key variables in all of the chapters so we ran additional analyses that are included in the appendices. After controlling for age and education, our results held in Chapters 4, 5, 7, and 8 (see Appendices E, F, G, and I). The patterns between our key variables and age and education were weak and inconsistent in Chapter 6 and dropped from further analyses.

Studies were open to both males and females. Although football fandom is largely a male phenomenon, females still make up natural populations of football fan. Females are also involved in extreme fan groups (Testa and Armstrong, 2010; Giulianotti, 2012; Knijnik and Horton, 2013). There was no association between gender and fusion in Chapters 4 and 8. We found weak to moderate associations between gender and fusion in Chapters 5 - 7. After controlling for gender the results of Chapters 5 and 6 remained the same as those reported in the body of the thesis (Appendices F and G). For Chapter 7, after controlling for gender, the results relating to affective arousal became

weaker. In the same study, although fusion continued to predict outgroup hostility after accounting for gender, we also found a strong main effect of gender such that males were more hostile than females (though this could be related to over-sampling males). There was not scope to cover gender beyond a brief literature review in Chapter 2 and the results provided in the appendices for this thesis, but this could be a springboard into future research.

The final limitation of the thesis I discuss in this section concerns attrition. Attrition was a major issue in both longitudinal studies (Chapters 6 and 7), as well as Chapter 8, which included a lengthy behavioural task. However, attrition only appeared to bias one of the three samples: Chapter 7, which comprised the longitudinal field study. Our analyses contrasting participants from different time points suggested that Chapter 6's sample was unlikely to be biased by attrition, i.e. participants who completed only the first survey or completed all three scored similarly for fusion. For Chapter 8, there were no statistical differences in terms of fusion, *torcida organizada* membership, willingness to fight and die, or football-related violence between those who completed the study and those who dropped out. This suggests that the sample was unlikely to be biased by attrition.

Chapter 7 was biased by attrition in that participants who only completed the first survey were significantly more fused than those who completed all three time points. Though it may be true that we were perhaps most interested in the weakly fused participants, as they had the most room to increase in fusion, this systematic loss is concerning for generalisability. The results of Chapter 7 must therefore be treated with more caution and future studies would need to retain participants longitudinally. By selecting participants in the field we

obtained a diverse sample but the importance of completing follow up surveys may not have been conveyed (despite numerous emails asking for participants' help). We suggest that our participants were more challenging to retain than typical undergraduate samples because the participants were less likely to be motivated to complete the study beyond an initial interest or the incentive to win the lotto. It may also be the case that more highly fused participants experienced the loss more painfully and did not want to recall the events.

#### **9.4 Directions for future research**

A large body of experimental work investigating the imagistic mode has been carried out over the last decade (Richert et al., 2005; Whitehouse et al., 2014; Jong et al., 2015; Newson et al., 2016; Whitehouse et al., 2017). In this thesis, more careful focus on the relationships between causal variables could have helped strengthen the claims we made regarding the dysphoric path to fusion, e.g. including items to measure reflection and consequentiality. More broadly, attention needs to be focused on the development of measures to explore the doctrinal mode in religious and non-religious contexts, as envisioned in Professor Whitehouse's current Ritual Modes project. Football fandom is a natural candidate to develop this work, particularly given the research already conducted in this thesis pertaining to the imagistic mode. In this section I evaluate how identification was measured in the thesis, discuss future fusion targets to be used in football-related research, and outline possibilities for future research into a 'reciprocal shared dysphoria pathway' to fusion.

Identification is a measure that warrants particularly careful consideration for future studies. In this thesis, aside from the Sport Spectator's Identification Scale (SSIS) in Chapter 4, we used single-item measures for

participants' ease and to reduce the length of surveys (identification analyses are included in the appendices). The drawback of this approach is the restriction it places on comparing a single-item measure with the multi-item verbal fusion scale. We used the SSIS in Chapter 4 as it seemed relevant to the sample and had been validated in multiple cultural contexts (Appendix D). However, this measure of identification seemed to overlap with the verbal fusion scale, as evidenced by their relatively high correlation ( $r = .66, p < .001$ ). Several of this measure's items could be argued to tap into the fusion construct (e.g. *'How strongly do you see yourself as a fan of your club?'* and *'How strongly do your friends see you as a fan of your club?'*). Because of this overlap, fusion and identification cannot be easily contrasted in terms of imagistic fusion and doctrinal identification using this measure. In Chapter 4, identification and identity fusion appeared to share causal pathways but diverged in terms of transformativeness and duration of supporting one's team (a proxy of dissonance). This blurring between identification and fusion in measures and pathways speaks of a broader need to develop a reliable and accurate measure of doctrinal identification to use as a contrast to tools designed to measure fusion, and also as a measure in its own right. One possibility is the use of multi-item identification measures such as those used by Ellemers et al. (1997), which focuses more on group processes than individual agency.

Identification and fusion correlated in all chapters, though collinearity did not appear to be a problem ( $r$ 's  $< .8$ ). For each statistical test concerning fusion in the empirical chapters, we ran corresponding analyses to control for or compare identification (see Appendices E-I). Overall, the fusion results were distinct from and stronger than identification. However, at times, the

identification measures produced stronger results (e.g. Chapter 6, Appendix G). Bortolini et al. (Under Review) have produced a paper which further distinguishes identification and fusion statistically, but not with a single item measure as used for Chapters 5-8. More empirical research is required to delineate the two constructs in relation to modes theory as outlined by Whitehouse & Lanman (2014), particularly with respect to isolating the cognitive mechanisms associated with identification and the doctrinal mode.

Selecting appropriate targets is an issue relevant to implementing both identification and fusion measures. Future football studies will benefit from designs using clubs over national teams, as the former target appears to generate higher rates of fusion in both Brazil and England. Although we only included one study on fusion to nation, we also found that fusion to football clubs and fans appears to be even higher than fusion to one's own nation. Though fusion to club and nation were not directly compared, club fusion was relatively well matched across our studies and the fusion to nation scores appeared to be consistent with those in other papers (Buhrmester et al., 2012; Bortolini et al., Under Review). The fact that football fans report higher levels of fusion to their clubs than their nations may be surprising for some non-sports fans, but is supported by the literature around sport fandom (see Chapter 3).

This difference between fusion to club and fusion to nation was also found in a different sample of Brazilian fans in Bortolini et al. (under review), although again nation and club were not explicitly contrasted. Fusion to club was higher than fusion to fans in both Brazilian (Chapter 8) and English (Chapter 5) samples. However, Brazilians scored consistently higher for fusion to nation, national team, club, and fellow fans than English participants. The precise reason

for this cultural difference is unclear and could be investigated with further research in to Latin American nations, which are under-represented in the social psychological literature.

Finally, it is worth briefly considering a possibility not investigated in the present thesis: that the shared dysphoria pathway to fusion may be reciprocal. This would mean that while shared dysphoric events cause fusion, fusion may also cause participants to engage in dysphoric events (Whitehouse et al., 2014). Precisely how this reciprocal relationship might work could be teased apart by conducting research with people who were not previously aligned with a particular group but engage in a dysphoric ritual (e.g. a harrowing football defeat, a university hazing ritual, or a military initiation) and see whether they seek out further dysphoric experiences, and whether these further increase fusion levels. A longitudinal study such as this would ideally be conducted using natural populations, as dysphoric rituals are ethically challenging to artificially reproduce.

## **9.5 Post-doctoral work arising from the thesis**

This thesis lays some of the foundations for an ERC- funded post-doctoral project with Professor Harvey Whitehouse commencing in 2017. This project will extend the thesis by designing intervention strategies to reduce football-based inter-group violence among hooligans in the UK, Brazil, and Australia. We will design and evaluate interventions in which sport is used to bring communities together. The first step in this project is an online survey and

qualitative interviews with hooligan groups<sup>51</sup> associated with Sydney's Western Sydney Wanderers, one of Australia's new football teams. These extreme fan groups are known for their aggressive behaviours and hostile stance toward outgroups, but are not violent in the same way as even relatively mainstream Brazilian fan groups. Furthermore, the fan organisations we will be working with are inter-ethnic and multi-cultural (Knijnik, 2014; Knijnik, 2016) so provide a good opportunity to study how football identities are negotiated with ethnic identities. I am leading the survey in collaboration with Professor Fiona White and Dr. Karen Gonsalkorale at the University of Sydney's Psychology of Intergroup Relations Lab (SUPIR) and Dr Jorge Knijnik at Western Sydney University's Institute for Culture & Society.

Once the postdoctoral position starts there are a number of sport and social cohesion projects that will follow on from the findings presented in this thesis. First is a laboratory or online study that tests whether football 'tribes' (identified by a football shirt) can overcome racial prejudices.

Next, there is the possibility that we will use football to help reduce recidivism among Australian ex-convicts via Australian football. For example, this may be through encouraging ex-convicts to share in self-transformative experiences with a new group or by finding shared histories (i.e. club allegiance) with societally acceptable groups. This project will be led by Dr Michael Buhrmester and run with Dr Robin Fitzgerald and Dr Adrian Cherney at the University of Queensland. I will also work with Dr Mark Doidge and Professor John Sugden from Football 4 Peace at the University of Brighton to set up and monitor two interventions (Schulenkorf, 2010; Sugden, 2010; Schulenkorf and

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<sup>51</sup> The organisations we are recruiting from are the Red and Black Bloc, 'regular' Western Sydney Wanderers fans, The Cove supporters, and 'regular' Sydney FC fans.

Sugden, 2011). The first is an existing local table tennis scheme for new refugees in Brighton, England. The second project is designed to encourage reconciliation between ethnic groups in post-genocide Rwanda. We are fortunate enough to have guidance for this project from Eric Murangwa, former Rwandan footballer and genocide survivor, who founded the charity Football for Hope, Peace & Unity in 2010.

We are also investigating the neural underpinnings of group alignment and outgroup hostility among football fans with Professor Jorge Moll and Tiago Bortolini at the D'Or Institute for Research and Education (IDOR), Brazil. In this study, led by Tiago and I, participants will be instructed to sing along to their team's football chants karaoke style. However, the audios will be either synchronous or asynchronous, with the prediction that synchronous conditions will induce state fusion. We also predict that state fusion will predict hostile choices in Halevy's IPD-MD. We will then re-run the study in fMRI scanners to try and pinpoint fusion specific brain regions that are associated with extreme group affiliation and consequent actions.

Finally we are investigating the Ritual Modes theory with a large sample of basketball fans at the University of Connecticut with Dr Dimitris Xygalatas. We are using proximity measures and physiological measures in real-time during live matches so will gain data on both euphoric and dysphoric games, as well as measures designed to track responses throughout the game. This study also includes a number of psychometric measures in a longitudinal design.

## Conclusions

The main findings of this thesis may be summarized as follows:

- 1) Fusion theory can be successfully applied to a sports context (Chapters 4-5; 7-8).
- 2) In four experiments, the dysphoric pathway to fusion was broadly supported:
  - a. fusion was highest among fans of unsuccessful teams and this effect was mediated by dysphoric arousal (Chapter 4);
  - b. a sense of self-transformativeness following a particularly intense shared event predicted fusion (Chapters 5, 6, and 7).
- 3) Fusion theory explained variation in fan behaviour and extreme fandom. We found evidence of lifelong loyalty (Chapter 5), self-sacrificial behaviours (Chapters 4 and 6) and outgroup hostility (Chapters 7 and 8). Special emphasis is given to outgroup hostility due to the societal implications associated with global football violence. We found that:
  - a. fusion moderates the relationship between membership of an extreme group and violence;
  - b. highly fused group members target their violence at specific outgroups and;
  - c. fusion to a target associated with relational ties (e.g. fellow fans) predicts violent behaviour, but fusion to a target associated with categorical ties (e.g. club) does not.

Our findings support the hypothesis that fusion has its origins in shared dysphoric experiences that are intense enough to transform the individual and make the boundary between personal and social selves more porous. The results

suggest that the strength of the bonds reported by highly fused football fans is powerful enough to generate the endorsement of extreme pro-group behaviours, including self-sacrifice and inter-group violence. This thesis is just part of a more extensive set of projects into fusion theory. Football fandom has provided a window into the types of behaviours fusion will predict, and how they come to be, in a natural population.

The behavioural consequences of fusion are among the most extreme and potentially dangerous social behaviours we know. When viewed in this way, a more thorough understanding of the causes and consequences of identity fusion could conceivably impact a great many areas, perhaps most importantly conflict resolution and policies relating to inter-group conflict. If we can use the growing number of projects on fusion theory to develop tools that activate broader fusion targets, such as 'humanity', 'nature', or 'planet earth', then we may be able direct the extremes of human sociality associated with fusion toward building a more cooperative and peaceful world.

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