



EUROPE

# **Violent and Antisocial Behaviours at Football Events and Factors Associated with these Behaviours**

A rapid evidence assessment

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## Preface

This report presents the findings of a study on the types of violent and antisocial behaviour that may take place at football matches, and the factors that are associated with such behaviour.

The report has been prepared for Qatar University, to inform that country's preparations towards hosting the 2022 FIFA World Cup, but is intended to be of interest and relevance to practitioners, policy-makers, academics and people interested in the field of sport spectator safety in general.

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## Summary

Football is the world's most popular sport, with millions of fans annually watching professional football on their television or at public viewing places such as fan zones, or attending matches in person. The vast majority of football matches pass without antisocial or violent behaviour occurring and many fans have never witnessed such incidents first-hand. However, negative behaviour at football matches is still a widely recognised and much-publicised issue that has garnered international media attention for decades. Despite this widespread attention, violent and antisocial behaviour at football matches remains an issue that needs to be better understood.

To this end, RAND Europe was commissioned by Qatar University to provide a critical assessment of previous research into these issues. This took the form of a rapid evidence review that was built on rigorous and systematic methodological approaches, the parameters of which were tightly defined to allow for the examination of available evidence within existing time constraints. This review addresses the following research questions:

1. What violent and antisocial behaviour takes place at football matches?
2. What factors are associated with such behaviour?

In addition to answering these research questions, we also hope to produce a clearer

picture about the depth and breadth of the evidence regarding violent and antisocial behaviour at football matches.

This report observes the key antisocial and violent behaviours that may be witnessed in relation to football events, such as verbal abuse, destruction of property, acts of vandalism and assault, while also noting that football environments can foster positive behaviours and social dynamics. In addition, it is important to acknowledge that definitions of antisocial behaviour are to some degree subjective and contextual.

The report then presents findings from the literature review on the factors which may drive violent and antisocial behaviour in football fans. These include:

- The influence of alcohol, which the evidence suggests may be a contributing factor to such behaviour, although the causal relationship between alcohol and hooliganism is unclear.
- Internal and external or relational psychological factors, such as rushes of adrenaline and a sense of meaning gained through these behaviours, and capacity to self-regulate emotions.
- Sporting rivalries, which have been shown to increase aggression in fans.

- Socio-political factors, such as unemployment, repression by state agents and ethnic-nationality tensions.
- Spatial factors, particularly given that large numbers of football fans may travel to a football tournament host city without the intention of attending a match, but rather will congregate in public spaces and fan zones.
- Situational and atmosphere-related factors including the day of the week on which the match is held, the match venue, the kick-off time, crowd size and the size of support groups in attendance.
- Reaction to play, for example a team's performance on the pitch and their style of play, as well as fans' expectations of their team.

It is important to acknowledge, however, that while the identified studies consider specific factors driving fan behaviour, the available evidence supports the notion that no single factor can be found to be responsible for

violent or antisocial behaviour by fans at football events. Rather, multiple factors are often in play simultaneously.

Our review found that the quality of the identified literature varied significantly, and the research team rated only a handful of studies as being very high quality. In addition, we do not have enough studies that are longitudinal in nature to allow us to make any inferences about trends over time regarding antisocial and violent behaviour. There are clearly numerous avenues for future research in the field that might address the evidence gaps identified in this report. In particular, more rigorous and reliable analysis of the factors driving violent and antisocial behaviour, including using comparison groups, which give researchers insights into how behaviour may differ in different circumstances, is needed here. Of particular relevance to this research study, fan behaviour at international football events specifically requires wider and more rigorous analysis, given the different characteristics of international and domestic tournaments.

# Table of contents

<b>Preface</b>	<b>III</b>
<b>Summary</b>	<b>i</b>
<b>Table of contents</b>	<b>iii</b>
<b>List of tables</b>	<b>iv</b>
<b>Acknowledgements</b>	<b>v</b>
<b>1. Introduction</b>	<b>1</b>
1.1. Objectives	1
1.2. How the evidence review was conducted	2
1.3. Studies included in the review	2
1.4. Quality of reviewed literature	2
1.5. Structure of this report	3
<b>2. Violent and antisocial behaviours of football fans</b>	<b>5</b>
2.1. What is the available evidence on football fan behaviours?	5
2.2. Key messages	6
<b>3. Factors behind violent and antisocial behaviour of football fans</b>	<b>7</b>
3.1. What impact may alcohol and illicit drugs have on fan behaviour?	7
3.2. What impact may psychological factors have on fan behaviour?	9
3.3. What impact may sporting rivalries have on fan behaviour?	11
3.4. What impact may socio-political factors have on fan behaviour?	13
3.5. What impact may spatial factors have on fan behaviour?	14
3.6. What impact may situational and atmosphere-related factors have on fan behaviour?	16
3.7. What impact may fan reaction to play have on fan behaviour?	18
3.8. How are factors interlinked?	18
<b>4. Discussion</b>	<b>21</b>
<b>References</b>	<b>23</b>
<b>Annex A. Methodology</b>	<b>27</b>
Methods	27
Inclusion criteria	28
Search terms	28
Databases searched and numbers of studies found	28
<b>Annex B. Data extraction template</b>	<b>31</b>

## List of tables

Table 1.	Data extraction template – Part 1	31
Table 2.	Data extraction template – Part 2	31
Table 3.	Data extraction template – Part 3	32

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The views presented in this report are the authors' and remaining errors are also our own.



# 1 Introduction

Football is the world's most popular sport, with millions of fans annually watching professional football on their television or at public viewing spaces such as fan zones, or attending matches in person. For example, the most recent FIFA World Cup, held in 2014 in Brazil, had a cumulative attendance of nearly 3.5 million across the 64 matches that took place (FIFA 2014). The vast majority of football matches pass without antisocial or violent behaviour occurring and many fans have never witnessed such incidents first-hand. But such negative behaviour at football is still a widely recognised and much-publicised issue that has garnered international media attention for decades – and has also been at the centre of a recent media firestorm. During the 2016 European Championships, held in France, the world watched as photographs, videos and stories of violent clashes between supporters of England and Russia were publicised on social media and in major news outlets (Boffey 2016).

Despite this widespread attention, violence at football matches is still an issue that needs to be better understood (Ostrowsky 2014). There are many factors that may potentially influence behaviour, including alcohol consumption, rivalries, situational and atmosphere-related conditions, socio-political considerations and fan reaction to play on the pitch, among others. These potential factors are intertwined in complex ways; this makes them difficult to study from an empirical standpoint, given

the complexity of isolating unique impacts of social and background conditions. In addition, there are many complications to collecting adequate data.

However, there is some emerging evidence about the influence of different factors on violent and antisocial behaviour which may be relevant to future sites hosting major football events. Qatar will host the 2022 FIFA World Cup, and therefore it is important for stakeholders in the event to understand how and why such behaviour comes about. Learning more about the available evidence base will allow authorities to better plan for, prevent and respond to antisocial and violent behaviour at football matches during the FIFA World Cup.

## 1.1. Objectives

To this end, we have undertaken an extensive review of the relevant literature. In doing this, we seek to understand:

1. What violent and antisocial behaviour takes place at football matches?
2. What factors are associated with such behaviour?

In addition to answering these research questions, we also hope to produce a clearer picture about the depth and breadth of the evidence regarding violent and antisocial behaviour at football matches, and additionally

assess the quality of this evidence (i.e. is it reliable, valid, rigorous). Furthermore, we will then have the ability to illustrate what gaps exist in the literature and offer suggestions for how future research can improve upon the existing evidence base.

We seek to use the existing evidence to draw some conclusions about violent and antisocial behaviour at football matches. In this report, we first discuss our research methods before explaining the types of such behaviour identified in the literature, such as destruction of property, vandalism and verbal abuse, and finally parse the evidence factor by factor in an attempt to elucidate more clearly where the literature stands on each. We conclude with a discussion of the findings and some recommendations for future research.

## 1.2. How the evidence review was conducted

Annex A provides a detailed account of the methodology employed for this review. The approach taken was a 'rapid evidence assessment' – an approach to identifying and critically assessing a body of research that is methodological, rigorous and repeatable but is not as comprehensive as a full systematic review.

The research team conducted a search of several academic (Web of Science, Scopus, PsycInfo and Social Sciences Abstracts) and grey literature (OpenGrey, IssueLab, OAISTER and Advanced Google search) databases and snowball searches in order to find as many relevant studies as possible in the time available. The initial inclusion criteria were any articles involving primary research and published in English after 2005, and reporting on the nature (e.g. types of behaviour, types of perpetrators, victims, location) and prevalence of antisocial and violent behaviours among populations watching and attending football

events. Commentaries, editorials and features, as well as research focusing exclusively on sports other than football, were excluded.

An important limitation of this review's methodology is that, while systematic, its parameters and inclusion/exclusion criteria necessarily constrained its scope. It is possible that further applicable lessons might be identified in literature that did not meet the criteria for inclusion in this review. Furthermore, much of the literature examines fan behaviour, and the factors driving it, at domestic football tournaments. It is unclear how generalisable these findings are to international football events. It may also be the case that conducting this literature review only in English eliminated some pieces of research particularly relevant to the Qatari context, which may have been published in Arabic.

## 1.3. Studies included in the review

A total of 34 studies were included following the application of the screening and inclusion criteria:

- 510 sources identified
- 128 retained after applying inclusion criteria and removing duplicates
- 58 retained after title and abstract search
- 34 included after full-text review.

There were several principal reasons for attrition in the sample of identified literature, all of which were linked to the inclusion criteria. For the most part, studies that were excluded from the review fell into one or both of the following categories: 1) studies focused on a sport other than football; and/or 2) studies that did not include any empirical data.

## 1.4. Quality of reviewed literature

Our review found that the quality of the literature varied significantly across our sample.

We rated only a handful of studies as being very high quality and these were mostly quantitative studies that employed rigorous statistical methods using large datasets on fan behaviour. This type of research was very sparse in our sample, however, as we mostly identified qualitative and descriptive papers, and our assessment of their quality varies widely.

A significant proportion of papers identified in this review suffered from similar limitations. They were often small-scale, survey- or interview-based and only conducted at a single point in time or, in the case of a few studies, focused solely on a single match. For example, handing out surveys to a small number of patrons at a pub near a football stadium may provide insight about that specific group in that specific location, but it would be misleading to extrapolate the findings to a wider population – not to mention the many potential external factors that would impact how survey (or interview) participants respond in this environment. As the methods employed in the majority of our articles were primarily qualitative in nature, our assessment of the literature will be somewhat different from the typical systematic literature review that usually includes mostly quantitative data.

It is also important to note the scarcity of comparative studies considering the impact that different factors have on fan behaviour,

which would have allowed us to be confident in drawing links between factors and behaviours. In addition, aside from a handful of quantitative studies, we also do not have enough studies that are longitudinal in nature to make any inferences about trends over time regarding antisocial and violent behaviour.

While the identified research may be useful for local policymakers and serve as an initial foundation for other researchers to build upon, it is difficult for us to draw any hard conclusions, let alone examine causality among the variables of interest, based on our sweep of the literature.

## 1.5. Structure of this report

This report commences with a summary of the key behaviours occurring at football events identified and analysed by the literature, such as hooliganism, aggression, racism, destruction of property and acts of vandalism (Chapter 2). Chapter 3 explores the different factors emerging from the literature that may drive how football fans conduct themselves, such as the influence of alcohol, sporting rivalries, spatial factors and psychological factors, and concludes with a discussion of how these factors may be interlinked. The report closes with a discussion of the review findings, and shares some recommendations regarding future avenues for research in this field.



## 2 Violent and antisocial behaviours of football fans

### 2.1. What is the available evidence on football fan behaviours?

The studies identified in this review characterise a number of behaviours as violent or antisocial. The majority of reviewed articles (16) focused on violent behaviour by fans (Beedholm Laursen 2017; Brechbühl et al. 2017; Jelodar et al. 2016; Millward, P. 2009; Ostrowsky 2014; Piotrowski 2006; Priks 2014; Schaap et al. 2015; Schreiber & Adang 2006; Sivarajasingam et al. 2005; Slabbert & Ukpere 2010; Spaaij 2007; Spaaij 2008; Stott et al. 2012; Van Hiel 2007; and Yusoff, 2015.) Violence identified in the articles ranged from individual or single incidents (see, for example Spaaij 2007) to widescale, such as group fighting or riots (see, for example, Ostrowsky 2014) and included physical assaults (see, for example, Sivarajasingam et al. 2005) and throwing projectiles onto the pitch (see, for example, Slabbert & Ukpere 2010.) Slabbert and Ukpere (2010) argue that spectator violence is ‘an “active” behaviour, where the spectator personally participates.... [But] it could also be less active (and possibly less sinister), in the sense that the spectator becomes and remains a passive observer of aggressive behaviour’ (p. 460).

A similar number of papers (11) covered “hooliganism”, a term which could also encapsulate violent behaviour.<sup>1</sup> These papers were Pikora 2013; Piotrowski 2006; Piquero et al. 2015; Priks 2014; Schaap et al. 2015; Spaaij 2007; Spaaij 2008; Stead & Rookwood 2007; Stott et al. 2012; Van Hiel 2007; and Yusoff, 2015. A number of articles also identified verbal and physical aggression, including racist abuse (Bensimon & Bodner 2011; Diekhof et al. 2014; Millward, P. 2009; Piotrowski 2006; Schreiber & Adang 2006; Slabbert & Ukpere 2010; Van der Meij 2015; Van Hiel 2007; and Yusoff, 2015). On the topic of verbal abuse, Slabbert and Ukpere (2010) cite data from a study by Wann et al. (2001) which investigated the attitudes of 500 spectators at a domestic football match in the United States: 75 per cent shouted insults, 41 per cent said that fans should be allowed to say whatever they want to say while 18 per cent considered verbal abuse to be funny. Other identified violent and antisocial behaviours include vandalism (see, for example, Slabbert & Ukpere 2010); destruction of property (see, for example, Beedholm Laursen 2017); and theft in the surrounding area of a match, (see, for example, Treadwell and Ayres 2014, discussed in Chapter 3 below).

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1 A hooligan is defined by the Cambridge Dictionary (2018a) as ‘a violent person who fights or causes damage in public places’.

Wann et al.'s (2001) study points to an important consideration when reflecting upon antisocial behaviour of football fans: that it is, at least to some extent, subjective. Treadwell and Ayres (2014) pick up this point in their study, noting that the debate around what constitutes antisocial fan behaviour has been considerably broadened in recent years:

Where once violence and disorder were a key concern, the modern era has seen debates arise around what other non-violent forms of behaviour should be policed or legislated out of football stadiums. For example, debates continue around sectarianism in Scotland (Flint and Powell, 2011), standing in all-seated areas (Caton, 2012), whether singing songs that may be considered racist or homophobic should be tolerated (Lavalette, 2013) and the criminalisation of fan behaviours generally (Waiton, 2012; McConville, 2012). New 'ultra-style' forms of fandom – as observed with the Green Bridge at Celtic – have emerged, which has raised questions about fan identities and how these might be expressed in 'acceptable' ways within the modern game (Lavalette and Mooney, 2013). (p. 9)

These points about how antisocial behaviours may be defined are particularly salient in the context of the FIFA World Cup, which is hosted in a different cultural setting on each occasion. Fan behaviour, for example public intoxication or racist chanting, may be perceived as harmless in some societies (or segments within some societies) but deeply

offensive in others. For the purposes of this study, we consider the behaviours listed in this chapter as violent and antisocial; however, we acknowledge that debates around these definitions are ongoing and often contextual.

Finally, a limited number of articles included in the review also focus on the effect of positive emotions and behaviours, such as excitement, socialisation and esteem. For example, Pikora (2013) notes that interpersonal relations between spectators at the stadium are typically more direct and personal compared to other social situations. More formal norms of social interactions are dropped in favour of a more intimate style of conversation, interrupting or joining other people's conversations is commonplace and making friends and acquaintances may happen more quickly than usual.

## 2.2. Key messages

The studies identified in this review presented a range of antisocial and violent behaviour displayed by football fans, including hooliganism, verbal and physical aggression, destruction of property, acts of vandalism and theft. In the context of antisocial behaviour specifically, it is important to note that that debates are ongoing as to what constitutes such behaviour, and definitions may depend to some extent on the relevant cultural setting. It is also important to note that football environments can foster positive behaviours and social dynamics. These studies will be explored further below, as they relate to the factors driving these behaviours.

# 3 Factors behind violent and antisocial behaviour of football fans

This chapter presents findings from the review of the literature on the factors which may drive violent and antisocial behaviour in football fans. These include the influence of alcohol or drugs; sporting rivalries, which have been shown to increase aggression in fans; spatial factors, particularly with reference to public spaces and fan zones; socio-political factors; internal and external or relational psychological factors; situational and atmosphere-related factors such as kick-off time and crowd size; and reaction to play on the pitch. This section also points to the available evidence supporting the notion that no single factor can be responsible for violent or antisocial behaviour by fans at football events.

## 3.1. What impact may alcohol and illicit drugs have on fan behaviour?

The literature search identified four papers (Beedholm Laursen 2017; Millward 2009; Piquero et al. 2015; Schaap et al. 2015) which consider alcohol at football events and the effects it has on fan behaviour. No literature that considered the impact that drugs may have on fan behaviour was identified. A combination of research methods were applied

in the identified studies, with some studies relying on qualitative methods (e.g. participant observations and interviews) and others taking a quantitative approach (e.g. longitudinal studies with secondary data). Alcohol was found to be an important part of attending football matches for many, but the effect alcohol has on fan behaviour still requires significant further research.

For many fans, attending football matches and consuming alcohol appear to go hand in hand. Beedholm Laursen (2017) undertook participant observations and carried out numerous interviews with members of Fraktion64, a Danish ultras<sup>2</sup> group supporting Brøndby IF. The research was carried out over 25 matchdays across the 2012–2013 and 2013–2014 seasons in the Danish top division. Alcohol was found to be ‘an essential part of the match day’ (p. 6) for many of the Fraktion64 members. However, the interview data was not formally synthesised so such findings are not as robust as would be desired. Drawing on both the observational analysis and interview data, Beedholm Laursen (2017) concludes that when visiting fans are not allocated drinking areas, it ‘increases the risk of social disorder or confrontation between rival fan groups’ (p. 6) because without a

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An ‘ultra’ is defined by the Cambridge Dictionary (2018b) as ‘an extreme supporter of a football club, often one who is part of an organized group that may also have extreme political opinions.’

central point to meet and socialise, fans are more dispersed and monitoring of their behaviour by police more challenging.

One example of alcohol consumption at a football event, and the effect it can have, is described by Millward (2009). During the 2008 UEFA Cup Final between Glasgow Rangers and Zenit St Petersburg, which was hosted in Manchester, violence broke out between Glasgow Rangers fans and the local police force tasked with controlling the crowds. Millward (2009) attended the event to undertake a participant observation study, allowing him to draw conclusions on the reason behind the violence. Considerable alcohol consumption was observed among the majority of fans in the area; this, according to his assessment, 'gave rise to a number of minor scuffles between supporters' (p. 391) which in turn appeared to lead to more widespread violence. However, the author stresses that Glasgow Rangers fans should not bear full responsibility and many other factors, beyond alcohol, were at play. It is also important to note that these findings are drawn from a single football match in a very specific context.

A small amount of quantitative analysis from the identified literature considers the impact of alcohol prohibition on violent incidents and the association between hooliganism and alcohol consumption. Schaap et al. (2015) analyse data on hooliganism covering 3,431 football matches in the Netherlands from 2006 to 2011, obtained from the Dutch Football Vandalism Office. Utilising multilevel logistic statistical models, they consider the impact of numerous factors on violent incidents around football matches. The authors find that football clubs which prohibit the sale and consumption of alcohol inside the stadium have a smaller chance of incidents occurring inside the stadium. However, such actions only appear to be moving the problem, with an increased chance of incidents occurring outside the

stadium when alcohol is prohibited within. The analysis is robust and undertaken on a large number of observations over a considerable period of time, but it is still important to remember the conclusions are drawn in the context of domestic Dutch football.

At the individual level, Piquero et al. (2015) analyse data from the Cambridge Study in Delinquent Development, a longitudinal study following a sample of 411 males from childhood into adulthood, to examine the relationship between football hooliganism and numerous other factors. Individuals identified as hooligans were found to be significantly more likely to be binge drinkers at the age of 18. Such a finding brings into question how direct the causal relationship between alcohol consumption and hooligan behaviour is: rather than alcohol consumption leading to hooligan behaviour, hooligan behaviour may in fact lead to alcohol consumption. However, once propensity score matching is undertaken, the balancing of groups across a variety of co-founders (e.g. age and socio-economic status), the relationship between hooliganism and binge drinking is no longer statistically significant, meaning that a link between hooliganism and binge drinking could not be established. Additionally, the dataset itself is limiting, as conclusions are drawn based on only 109 participants after propensity score matching.

### 3.1.1. Key messages

Alcohol was found to be an important part of attending football matches for many fans. However, evidence suggests that consumption of alcohol may be a contributing factor to the occurrence of violent and antisocial behaviour, although the causal relationship between alcohol and hooliganism – that is, whether alcohol leads to hooligan behaviour or hooliganism leads to alcohol consumption – is unclear. Some evidence suggests that prohibiting the sale and consumption of alcohol

within a stadium merely moves the problem of crowd disorder outside the stadium. Other research indicates that allocated drinking areas for fans facilitates more effective monitoring of their behaviour. No research was identified that analysed the effect of illicit drugs on crowd behaviour. Overall, the evidence on the effect of intoxicants on fan behaviour is limited and requires significant further research.

### 3.2. What impact may psychological factors have on fan behaviour?

A number of different factors have been highlighted by studies in this field; some research focuses on internal psychological factors (within oneself) and other research focuses on external and relational psychological factors (among people and their environment).

One study focuses on internal and personal psychology and its potential role in fan behaviour. In a synthesis of previous work on hooliganism, Ostrowsky (2014) quotes Spaaij's (2008) study, which discusses how hooligans may feel a 'buzz' when antagonising opposing fans – this rush of adrenaline could influence individual (and collective) deviance. Ostrowsky goes on to discuss how hooliganism may counter boredom and give participants a source of meaning in a current society where 'opportunities for taking risks have been shrinking'; in addition, hooliganism may allow an opportunity for individuals to express their masculinity and offer a sense of 'belonging, solidarity, and friendship' (Ostrowsky 2014). Finally, personality traits can be a factor as well – survey results from the Netherlands indicate that self-reported 'openness to experience' may be related to group-based aggression (Van Hiel et al. 2007).

External and background factors can also play a role in the psychology behind deviant

fan behaviour. In his mixed-methods study of 'high-risk' groups (boys aged 11-13 years old), Piotrowski (2006) posits that deviance in fans stems from a lack of social support. He describes high-risk boys, who displayed 'a high level of aggression, low self-esteem...and slow learning progression...[and] often came from dysfunctional families', and the relationship between these factors and their ensuing hooliganism:

[T]he deviant behavior manifested by groups of sports fans is merely a destructively expressed way of coping with a sense of alienation. In the process of socializing, the boys have been exposed to a configured set of disadvantageous factors. The greater the number of disadvantageous variables and their configurations to which the individual has been exposed, the more likely such a formation is to occur. Since a sense of alienation produces negative emotions, alienated individuals attempt to cope with the situation in question. For the high-risk-group boys, the most dominant way of overcoming such a state is to form an informal group of a destructive character, combined from the sort of individuals who are experiencing similar difficulties. (p. 635)

Stott et al. (2012) conducted ethnographic research at 23 Coventry City Football Club fixtures between 2005 and 2008, and found even more evidence that social identity and background impacted fan behaviour but also that the psychology behind perceptions of the police and the interaction between fans and police is important to consider. They state:

Our evidence is consistent with the idea that 'compliance' in this context was an outcome of the way dynamic intergroup interactions feed into the 'identity information' that fans used to understand themselves and their social relationships

which, in turn, governed the form of their collective action. (p. 396)

The authors further describe that when police are perceived positively and their actions seen as legitimate after engaging groups in a less strict, less deterrent-based and more dialogue-based manner, fans are more likely to 'self-regulate' their behaviour and avoid confrontations. Others have observed this self-regulation phenomenon as well. When conducting field observations of the 2006 World Cup match between Poland and Germany, Rosander and Guva (2012) found that in one instance where the situation could have escalated as fans playfully jostled over a statue, police trusted the groups and remained calm; the fans then essentially self-regulated and the situation deescalated without police intervention.

Perhaps unsurprisingly, Beedholm Laursen (2017) found that when police are perceived as being unfair, a converse reaction is found among the crowd. The authors argue that 'if crowd policing is perceived as unfair and illegitimate, law-abiding crowd members are likely to turn against the oppressor and sympathize with fans seeking a confrontation with authorities' (Beedholm Laursen 2017). Qualitative research on Swiss Premier League football matches done by Brechbühl et al. (2017) revealed very similar results, and observations of Glasgow Rangers supporters by Rosander and Guva (2012) indicated that police were being stricter at night, which correlated with heightened deviance. In a mixed-methods study on the Poland vs. Germany match in the 2006 World Cup, researchers present evidence of how fan perception of overly harsh and unfair police treatment in a situation might anger fans or

instigate deviant behaviour (Schreiber and Adang 2010). Stott et al. (2012) corroborate this collection of work, finding that hooligans are:

...(1) more likely to maximize normative consent within the crowd and (2) maintain or even build institutional legitimacy for the police that, in turn, increases fans' commitment to the rule of law. (p. 395)

Relatedly, research conducted by Brechbühl et al. (2017) includes another interesting finding about physical appearance and its role in inciting antisocial behaviour or violence. They explain that police who wear riot gear outfits (as well as fans who mask their faces) may have an aggravating effect on fan behaviour.<sup>3</sup>

Finally, the media's role in altering how fans behave has been well documented as well: multiple studies have shown that it impacts upon the psyche of fans before they even enter the stadium. Piotrowski (2006) comments on the impact of the practice of publishing rankings of hooligan groups, noting how higher rankings may come to be 'regarded as a kind of ennoblement and distinction' only strengthening group-wide deviance (Piotrowski 2006). The aforementioned study of a 2006 World Cup match by Schreiber and Adang (2010) also touches on the media's impact. They explain how the fans' expectations impacted upon their behaviour:

...[W]e found that context did not only appear to be composed of what was present in a specific situation but also of participants' cognitive representations of information that had been provided beforehand. Even in peaceful situations where positive group relations were observable between Poland and Germany

3 For further discussion on policing strategies to manage crowd safety at football events, see the forthcoming RAND Europe report *Violent and Antisocial Behaviour at Football Events: A review of interventions* (Taylor et al., forthcoming).

fans and confirmed by the fans' accounts, there was still an expectation of risk among the German fans because this was a message that had been conveyed through various arms of the media. (p. 484)

Razavi et al. (2014) take a slightly different angle by using surveys to study the media – but instead of assessing coverage prior to a match their prior coverage and how that impacts fan perception, they reflect on the impact of the media's presence at an actual match between two Iranian teams. They find that the level of 'media presence', described as the presence of journalists at the stadium, the match being broadcast in real time (this was in the early 1990s, when live broadcasts were less common than today) and the presence of photographers behind the goals were positively correlated with antisocial behaviour.

### 3.2.1. Key messages

A range of both internal and external or relational psychological factors in violent and antisocial behaviour were identified in the reviewed literature. On the former point, studies examined the adrenaline rush that may be generated in individuals by antagonising rival fans, as well as the role of a sense of meaning, particularly with reference to belonging to a group. Regarding the external or relational factors, the identified literature examined the impact of the environment on fan behaviour both more broadly, for example on the lack of social support systems for individuals who engage in violent or antisocial behaviour, and in a more context-specific sense, observing that perceptions of police legitimacy can facilitate behavioural self-regulation or, conversely, lead to disorder. The media may also have an emboldening effect on hooligan groups.

## 3.3. What impact may sporting rivalries have on fan behaviour?

A total of eight papers (Braun and Vliegenthart 2008; Brechbühl et al. 2017; Diekhof et al. 2014; Marie 2016; Piotrowski 2006; Spaaij 2007; van der Meij et al. 2015; Yusoff 2015) were identified that considered the impact of sporting rivalries on fan behaviour at football events. Through a mixture of quantitative, qualitative and laboratory research, the literature identified sporting rivalries as an important factor in fan violence and antisocial behaviour. However, again, the available evidence is scant and, in particular, more research needs to be conducted to examine the effect of rivalries at the international level: the identified papers focused on domestic sporting rivalries.

A reoccurring theme in the literature is the desire that ultras and other fanatical supporters have to defend the identity and reputation of their team on and off the field of play. For example, Piotrowski (2006) attempts to identify the determinants of hooliganism in Poland using a mixed-methods approach – collecting observational and primary data and undertaking secondary data analysis. The analysis considers data from 1970 to the present day, with the author finding that in groups of hooligans 'it is the duty of each group member to protect the club's reputation and unblemished name from any real or imaginary threat or insult' (p. 637). However, the conclusions of this paper should be treated with caution as they do not all appear to be sufficiently supported by the methods applied and evidence analysed.

That being said, such mentality is observed in other research and even appears to be amplified when rival football teams face each other. Brechbühl et al. (2017) observed the behaviour of away-fan ultras, stadium officers and police officers at two Swiss top-division football matches in October 2012

and June 2013. According to data collected through observations and follow-up interviews, 'arch-rivalry between opposing fans seemed to further increase the likelihood of violent reactions' (p. 872). Interestingly, according to Yusoff (2015), such negative incidents can bleed from one game into the next, suggesting that sporting rivalries could potentially become increasingly intense over time. However, such findings are based on interviews and focus groups carried out among football fans in Malaysia and minimal information was provided on the methods adopted.

Spaaij (2007) provides an example where sporting rivalry spiralled into catastrophic violence. In his book *Understanding Football Hooliganism: A comparison of six Western football clubs*, he highlights how sporting violence between Barcelona and Espanyol hooligans escalated with tragic consequences:

The growing competitive violence between Boixos Nois and Brigadas Blanquiazules was reflected in a number of violent incidents. On 3 September 1988 the two groups fought each other near the ground after a local derby that was marred by vandalism and missile throwing. On 1 December 1990, a 21-year-old Boixos Nois member was beaten and stabbed by an affiliate of Brigadas Blanquiazules at a bus stop in Barcelona. The perpetrator was sentenced to eighteen years in prison. The spiral of escalating violence culminated in the death of an Espanyol fan, on 13 January 1991. (p. 296)

Although the exact details of the study design are not disclosed in the book, and some conclusions are drawn based on expertise rather than empirical evidence, the observation above provides an important insight into the potential consequences of sporting rivalries among hooligan fans.

The available quantitative research also supports the narrative that sporting rivalries are a factor that influences supporter violence and antisocial behaviour. Braun and Vliegthart (2008) analyse secondary data in an attempt to determine which macro-sociological factors best explain the level of violence among football fans across the Netherlands from 2001 to 2005. Hooliganism, defined here as the number of weekly violent incidents at football matches, increased significantly when 'risk matches' were being played. Risk matches were defined as games between geographically close teams or those with a traditional sporting prestige or shared history of violence, i.e. matches between teams with a particular rivalry. The study utilised a rich variety of reliable sources, developed a good-quality study design and provided high-quality analysis.

Further, Marie (2016) undertook a quantitative study of secondary data to examine the determinants of criminal behaviour associated with Premier League and second-tier football matches in London between October 1994 and March 1997. Similar conclusions were drawn to those of Braun and Vliegthart (2008), with the study design and analysis being of equally high quality. Marie (2016) finds a large and statistically significant increase in violence when an area is hosting a football match between two rivals, i.e. a derby match, suggesting that 'concentration could play a role in increasing the number of violent interactions but only when the level of rivalry between opposing fans is high' (p. 286).

Two of the studies identified in the literature undertook controlled tests of individuals to determine how sporting rivalries influence behaviour at this level. Diekhof et al. (2014) collected and analysed primary data on 50 male football fans recruited from the student population of the University of Hamburg, who undertook a computer-based Ultimatum Game

(UG). Participants were provided theoretical ultimatum offers to split a given number of points between either own-team fans or rival fans. Overall, participants were much more likely to reject an unfair offer from a rival fan than a fan of the same team. Additionally, testosterone levels were measured: higher levels were associated with increased hostility towards rival fans and greater levels of cooperation among fans of the same team.

Van der Meij et al. (2015) also undertook a controlled laboratory test to try to determine predictors of fan violence. All 74 participants watched their favoured team lose to their fiercest rival, as well as another video where rival fans commented in either a negative, neutral or positive manner about the participant's team. Results showed that the comments of rival fans did not affect aggression, regardless of whether they were negative, positive or neutral, but participants did display high levels of aggression and anger after watching their team lose. Although the findings of the two laboratory tests are of interest, the findings should be interpreted with caution as they were conducted in a controlled environment, away from the numerous other factors that determine fan violence.

### 3.3.1. Key messages

Ardent football fans seek to defend the identity and reputation of their team on and off the field; this attitude appears to be amplified when rival football teams face each other. The identified evidence from a variety of contexts indicates that rivalry between football fans is a contributing factor to violent and antisocial behaviour, although the literature focuses on domestic rather than international football rivalries. Laboratory tests have been conducted which reveal the aggression that feelings of rivalry may generate, particularly when the supporter's team loses a match.

## 3.4. What impact may socio-political factors have on fan behaviour?

Evidence regarding the impact of socio-political factors on violence among football fans is sparse. A total of five papers (Braun and Vliegthart 2008; Ben Porat 2016; Jelodar et al. 2016; Treadwell and Ayres 2014; Yusoff 2015) were identified that considered socio-political factors as potential determinants of fan violence, with the quality of study design and analysis generally lacking. A variety of research methods were applied in approaching the issue, from quantitative analysis of secondary data to qualitative analysis through surveys and interviews. The literature appears to find tenuous links between socio-political and socio-demographic factors and hooliganism, but considerably more research is required in the field to draw any conclusions of value.

The analysis undertaken by Braun and Vliegthart (2008) considered the impact of unemployment among males under 24 years of age and the political context in the Netherlands on hooliganism. In their study, the political context was captured through 'political opportunity', defined as 'the intensity of police repression' (p. 805) and measured by dividing the number of arrests by the number of reported incidents at football matches. In the statistical analysis, both unemployment and the political context were found to have a significant impact on levels of hooliganism. The study provides the most robust findings with respect to socio-political factors. In Iran, however, socio-economic status was not found to have an effect on antisocial behaviour among fans. Jelodar et al. (2016) analysed quantitative data gathered through surveys of fans of two Iranian football teams, although the sampling technique was not described in detail and only basic statistical analysis was undertaken. Using these methods to analyse

surveys of supporters of the Iranian teams, Esteghlal and Persepolis, higher levels of 'rudeness' were correlated with age (younger supporters displayed higher levels of rudeness), more family background of violence and friends' actions. Finally, Yusoff (2015) finds that the demographics of an individual influences the likelihood that they will participate in deviant behaviour at football events. Perhaps unsurprisingly, younger individuals and males are more likely to be involved.

More context-specific examples of socio-political factors were also identified in the literature. For example, Ben Porat (2016) examines the development of violence at football matches in Israel from 1948 to the present day through the analysis of numerous sources of secondary data. The author finds that since the 1990s the socio-political landscape in the country has emerged as a determinant of violence, with 'ethnicity-nationality' tensions between Jews and Arabs causing violence among fans. The issue is fuelled even further by the existence of identifiably Jewish and Arab clubs. In Malaysia, Yusoff (2015) notes that each domestic team is associated with a specific state, which results in state-based identities coming into play and influencing violence among football fans. However, the findings of both papers should be treated with caution. Both authors provide very limited information on the design of their studies, with the resulting analysis determined to be weak as a result. It is also important to note that these socio-political factors are extremely context-specific, although lessons can be learned from such examples. Treadwell and Ayres (2014) also point to a number of older but relevant studies that suggest connections between violent football subcultures and organised crime or counter-jihad movements (such as the English Defence League).

### 3.4.1. Key messages

Some research has been undertaken seeking to understand the impact that socio-political factors have on fan behaviour. Although the evidence is limited, generally of low quality and at least to some extent context-specific, unemployment, repression by state agents and ethnic-nationality tensions have been found to impact upon violent and antisocial behaviour displayed by football fans.

## 3.5. What impact may spatial factors have on fan behaviour?

One clear theme in the literature is the acknowledgement that spatial factors influence antisocial behaviour at football events, with eight identified papers considering this subject (Brechtbühl et al. 2017; Millward 2009; Schaap et al. 2015; Schreiber and Adang 2010; Spaaij 2008; Stead and Rookwood 2007; Treadwell and Ayres 2014; Yusoff 2015). The literature found that often thousands of fans will descend on a city for a football match with no intention of actually watching the game, which can lead to numerous consequences. Additionally, the extent to which opposing fans are separated from each other influences disruptive behaviour, and the size of the stadium may even be a factor. As highlighted previously, a variety of research methods have been applied, with the quality of study design and resulting analysis varying greatly.

Perhaps the most important element for football event organisers to consider is that large numbers of football fans often visit host cities on matchdays with no intention of attending the game in the stadium. As explained by Treadwell and Ayres (2014), 'it is now not uncommon for travelling fans to visit cities where games are played with no intention of being at the match but just to be part of the atmosphere' (p. 6). With respect to hooligan fans in particular, public spaces may become

theatres for confrontations. Collating data from six years of fieldwork across the Netherlands, Spain and the UK from 2001 to 2006, Spaaij (2008) argues that:

Hooligan encounters are essentially related to the contestation of specific public spaces, notably the defense of home 'turf' and the invasion of foreign territory (i.e. the ground and surrounding areas). (p. 383)

Spaaij's (2008) findings are based on more than 400 semi-structured interviews, participant observation, documentary analysis and analysis of football fan websites across multiple countries. However, no explicit study design was outlined and the data analysis technique was not made clear.

Beyond hooligans, the accumulation of large numbers of regular football fans without tickets attending host cities to enjoy the matchday atmosphere has also been found to lead to significant disruptive behaviour in certain cases. Millward (2009) sheds light on the potential impact of vast numbers of fans descending on a host city for a major football event without being effectively managed. First, evidence is identified that Manchester City Council grossly underestimated the number of Glasgow Rangers fans who would travel to the city for the UEFA Cup Final between Glasgow Rangers and Zenit St Petersburg in 2008. Between 100,000 to 200,000 Rangers fans were estimated to be in the city on the day, with the expectation having been no more than 60,000. Second, in relation to the location of fan zones in Manchester city centre, it was noted that directing hundreds of thousands of people to an area already frequented by thousands of shoppers and workers was far from ideal. Both issues were determined to be factors in the eventual violence that broke out between Glasgow Rangers fans and the local police force.

Similar incidents were observed at the 2006 FIFA World Cup match between Germany and Poland. Schreiber and Adang (2010) undertook a mixed-methods approach to collect data on the behaviour of German fans, Polish fans and the German police in Dortmund through interviews and field observations. Again, considerably more fans presented themselves at fan zones in the city than expected, leading to the closure of the dedicated areas for fans to watch the match. The authors determined that this 'gave rise to potentially very troublesome situations' (p. 483) which directly contributed to the violence that arose between German fans, Polish fans and the police that day. However, many of the paper's findings are based on opportunistic interviews of people who agreed to answer the research team's questions, meaning that the views of some important stakeholders may have been overlooked.

A further issue identified in the literature is the use of separation tactics by authorities to keep opposing fans apart. Stead and Rookwood (2007) conducted an interview with a British police officer tasked with policing British football fans, who claimed:

By separating fans you divide them. In sports like rugby, they sit together without a problem. The segregation creates the 'us versus them' mentality that has caused so many problems. But it's necessary. If you didn't split fans there would be more trouble so they can't win. (p. 35)

Here it is claimed that segregation, a widely used technique in the policing of football fans, is part of the problem with respect to disruptive behaviour. No other evidence was found to support this narrative, but evidence that not splitting fans causes trouble does exist. In their study of fan behaviour among ultras at two top-flight Swiss football matches, Brechbühl et al. (2017) found that when fans felt their group's space was being infringed upon, either by other fans or by law enforcement, critical incidents

(i.e. incidents between two or more groups that may or may not escalate into violence) were much more likely to occur. Further, in his qualitative analysis of football fan behaviour in Malaysia, Yusoff (2015) found that the closer the proximity between home and away fans inside the stadium, the more disruptive behaviour takes place.

Finally, the identified quantitative analysis highlights further spatial factors influencing antisocial behaviour among football fans. In their analysis of data on hooliganism in the Netherlands from 2006 to 2011, Schaap et al. (2015) find that at matches played in larger-than-average stadiums, violent incidents are significantly less likely to occur within the stadium but significantly more likely outside the stadium.

Further, empirical analysis on the impact of match days on crime rates around football stadiums found significant increases in criminal damage and violent offences up to one kilometre from Leeds United's Elland Road stadium when the team play home matches (Treadwell and Ayres 2014). Even beyond one kilometre from the stadium, a significant increase in theft and handling of stolen goods offences was observed. Relatedly, another study examined criminal behaviour of football supporters and its effects on their surroundings. Marie (2016) used crime data to analyse the effect of a number of variables on property crime in the immediate proximity of a stadium. His most pronounced finding was simply that more people in the vicinity meant more property crime, at the rate of a four per cent increase per an additional 10,000 fans at a home game. Conversely, he found the opposite effect when the local team was playing away

– there was a decrease in property crimes. Furthermore, no time displacement occurred:

...there does not appear to be any game attendance effect on property crimes. This confirms that there is no time displacement in property offences over a match day and that the changes that were estimated previously during a match are absolute increases (during home games) and decreases (during away games). (p.17)

One crime in particular drove these relationships: theft, and more specifically, thefts of motor vehicles (or of their contents). Burglaries and criminal damage did not change based on whether the match was home or away (Marie 2016).

### 3.5.1. Key messages

A number of spatial factors have been found to impact upon crowd behaviour, such as sharing physical space with fans of other teams and members of the public, for example in fans zones in city centres; a lack of large zones where fans may peacefully congregate; and the size of the stadium. Effective crowd management strategies are required to prevent disruptive behaviour among these fans and members of the public. In particular, fans from opposing teams will need to be separated where possible, both inside and outside the stadium.<sup>4</sup>

## 3.6. What impact may situational and atmosphere-related factors have on fan behaviour?

The literature identified in this review covers a number of factors related to the specific

4 Effective strategies to prevent and respond to violent and antisocial behaviour by football fans are further explored in a separate, forthcoming, RAND Europe report, *Violent and Antisocial Behaviour at Football Events: Review of interventions* (Taylor et al., forthcoming).

context of a match which may impact upon violent and antisocial behaviour. First, Paasonen and Aaltonen (2017) use rich data from Finland between the years 1997 and 2014 to analyse the effect that different situational factors have on deviant behaviour. In a simple statistical analysis, they find the following: differences in the months of the year when matches took place were not statistically significant, but days of the week (Saturday had more disturbances), the venue of the match and the kick-off time (before 6 p.m.) were significantly related to the number of disturbances. The result of the match was not statistically significant, but size of support groups and attendance were. The authors note that '[o]n average, more disturbances are reported in matches where there is a bigger crowd and many home and away supporters are present. This is not surprising, given that the inappropriate behaviour of supporter groups was the most frequent type of disturbance overall.' (p. 1074)

The authors find that:

...the strongest variables predicting disturbances are higher numbers of home team's and visiting team's supporters. Of these, the high number of supporters of the visiting team is the strongest predictor of disturbances. After controlling for the number of supporters, attendance no longer has an independent connection to disturbances, suggesting that numbers of supporters are driving the more general association between attendance and disturbance. (p. 1076)

In addition, the authors note that 'matches played on warm summer days are more conducive to crowd trouble', and they postulate that alcohol consumption may be a contributing factor. The study employs two statistical models. In one model, kick-off time, day of the week and temperature did not have statistically significant relationships with

disturbances. In the other model, temperature (greater than 25 degrees Celsius) did have a significant relationship with higher deviance; the remaining variables (kick-off time and day of the week) were not statistically significant. However, Razavi et al. (2014) did find that the time of the match had an impact on antisocial behaviour, though they do not specify the nature of this relationship (whether earlier time or later had an impact) and their survey results are confined to one match. Schaap et al. (2015) conduct their own analysis regarding situational factors using a comprehensive Dutch dataset of incidents. They find that later match start times correlate with incidents both inside and outside the stadium – and darkness has an additional impact on incidents outside the stadium (but not within the stadium).

Finally, the effect of large-group or stadium-wide chanting (large groups shouting pre-planned songs or phrases) may also be a variable of interest in impacting violent and antisocial behaviour. To study this, Bensimon and Bodner (2011) conducted surveys of fans before and after a match between two Israeli sides (Hapoel Tel-Aviv and Bnei-Yehuda). They found that fans who had taken part in collective chanting during the match reported feeling a higher level of aggression. As with the discussion on the causality between alcohol consumption and violent or antisocial behaviour, however, it is difficult to state whether the chanting leads to aggression or vice versa.

### 3.6.1. Key messages

A number of situational factors were identified in the literature as having a potential impact on fan behaviour. These include the day of the week on which the match is held, the match venue, the kick-off time, crowd size and the size of support groups in attendance. As noted in the introduction to this report (Chapter 1), however, the findings of studies that

examine behaviour at domestic matches may have limited generalisability to international tournaments. This caveat is particularly important here; for example, the day of the week may have less of an influencing role on fan behaviour when an international tournament hosts matches every day for a number of weeks.

### 3.7. What impact may fan reaction to play have on fan behaviour?

The play on the pitch itself may have an important effect on fan behaviour. Sivarajasingam et al. (2005) conducted a study of both football and rugby fans at international matches and analysed assault-related data from 1995 through 2002. They found that the result of the match was associated with violent behaviour, but contrary to what one might assume, supporters of the winning teams had more incidents of assault than the losers. Explanations for this could include that jubilation and celebration, combined with confidence and feelings of patriotism/pride, may incite antisocial and/or violent acts.

Ostrowsky (2014) points to evidence from South Africa showing that poor team performance impacts hooliganism. However, expectations of team performance also play a role, according to a mixed-methods study of referee match reports from Sweden that found that if a bad team (low in the standings) played poorly, fans would not necessarily be violent (e.g. throw objects onto the pitch), whereas a good team playing beneath expectations might incite violence. According to interviews with police officers, supporters of home teams also are more prone to feeling frustration compared to fans of the away side. The authors point to bottle throwing and kicking others in the midst of a hooligan fight as two violent actions that are more likely when a team is underperforming (Priks 2014).

Finally, aggressive behaviour of fans may actually mirror that of their team – a study by Braun and Vliegthart (2008) found that aggressive play of the team, measured by the number of red and yellow cards given, actually incited more aggression in their fans (for yellow cards only). Their data from the Netherlands indicates that an extra yellow card is associated with 0.04 more instances of hooliganism (Braun and Vliegthart 2008). Similarly, evidence from interviews and focus groups in Malaysia indicates that referee decisions may incite violent behaviour from fans (Yusoff 2015).

#### 3.7.1. Key messages

A small number of studies identified in this review consider the impact of match play on fan behaviour. In particular, a team's performance on the pitch and their style of play may influence crowd behaviour. Furthermore, when fans have expectations of a certain level of performance by their teams which are not met, this can lead to disorder.

### 3.8. How are factors interlinked?

This literature review has identified numerous factors that influence the existence of antisocial and violent behaviour at football matches around the globe. It is important to stress that none of these factors occur in isolation from each other. While summarising the work of Russell (2004), who considers what factors bring about sports riots, Slabbert and Ukpere (2010) outline the issue neatly:

...[S]ituational, environmental, social and cognitive variables all play major roles in spectator violence.... [T]o arrive at a simplistic cause-effect relationship, is therefore both implausible and inadvisable. (p. 460)

The evidence identified in the current literature review supports the notion that no

single factor can be responsible for violent or antisocial behaviour by fans at football events. In fact, multiple factors are often in play simultaneously. In their analysis of secondary data on football fan violence in the Netherlands, Braun and Vliegthart (2008) found that 'risk matches' (matches between rival teams), police repression, media coverage, unemployment levels and aggressive play all simultaneously have a statistically significant impact on hooliganism when included in the same multiple regression. Additionally, when further considering the impact of aggressive play on hooliganism, high-risk matches (such as those involving rival teams), aggressive play, attendance levels, history of previous confrontation and match result were all included in another multiple regression. Risk matches and aggressive play on the pitch were found to have a significant impact on hooliganism. Interestingly, attendance levels, history of previous confrontation and match result were not found to have a significant impact on levels of hooliganism.

Evidence of numerous interlinked factors also exists in the qualitative research identified. In their observations of travelling ultra fans in Switzerland, Brechbühl et al. (2017) find that sporting rivalries, spatial factors, psychological factors and physical appearance all have an impact on critical incidents at football events (i.e. incidents between two or more groups that have the potential to escalate into violence);. The conclusions were drawn from observations of eight critical incidents in all of these incidents, many of the factors established from the observations and follow-up interviews were at play simultaneously. Furthermore, in his collation of over 400 interviews over five years across three countries, Spaaij (2008) finds that spatial and psychological factors, among many others, influence the existence of hooliganism. He concludes that such factors are common to football hooliganism the world

over and are therefore interlinked, ruling out any single factor being the driving force behind the existence of hooliganism.

Although a very limited number of studies explicitly considered how factors are interlinked, the majority of papers identified numerous factors which were deemed to influence the existence of antisocial behaviour at football events. This suggests that no one factor can lead to fan violence in itself, with authorities needing to consider a breadth of variables, many of which will be relevant at any one time.

### **3.8.1. Key messages**

While the studies identified in this review consider specific factors driving fan behaviour, such as sporting rivalries, spatial factors and psychological factors, the available evidence supports the notion that multiple factors are often in play simultaneously, and may not be isolated from each other in determining why football fans display violent or antisocial behaviours.



# 4 Discussion

In conducting this rapid evidence assessment, we have sought to understand two questions: 1) what violent and antisocial behaviour takes place at football matches and 2) what factors are associated with such behaviour. The report describes the key **antisocial and violent behaviours** that may be witnessed in relation to football events, such as verbal abuse, destruction of property, acts of vandalism and other criminal activities, while also noting that football environments can also foster positive behaviours and social dynamics.

This report then presented findings from the review of the literature on **the factors which may drive violent and antisocial behaviour** in football fans. These include:

- The influence of **alcohol**, which the evidence suggests may be a contributing factor to such behaviour, although the causal relationship between alcohol and hooliganism is unclear (3.1).
- Internal and external or relational **psychological factors**, such as feelings of adrenaline and a sense of meaning gained through these behaviours, and capacity to self-regulate emotions (3.2).
- **Sporting rivalries**, which have been shown to increase aggression in fans (3.3).
- **Socio-political factors**, such as unemployment, repression by state agents and ethnic-nationality tensions (3.4).

- **Spatial factors**, particularly given that large numbers of football fans may travel to a football tournament host city without the intention of attending a match, but rather will congregate in public spaces and fan zones (3.5).
- **Situational and atmosphere-related factors** including the day of the week on which the match is held, the match venue, the kick-off time, crowd size and the size of support groups in attendance (3.6).
- **Reaction to play**, for example a team's performance on the pitch and their style of play, as well as fans' expectations of their team (3.7).

Chapter 3 of this report concludes with an acknowledgement that while the identified studies consider specific factors driving fan behaviour, the available evidence supports the notion that no single factor can be found to be responsible for violent or antisocial behaviour by fans at football events (3.8). In fact, **multiple factors are often in play simultaneously**.

Our review found that the quality of the literature varied significantly across our sample, and the research team rated only a handful of studies as being very high quality, mostly quantitative studies that employed rigorous statistical methods using large datasets on fan behaviour. Most studies were small-scale, interview-based and only

conducted at one point in time, or, in the case of a few studies, focused solely on a single match. It is also important to note the scarcity of comparative studies considering the impact that different factors have on fan behaviour, which would have allowed us to be confident in drawing links between factors and behaviours. In addition, aside from a handful of quantitative studies, we also do not have enough studies that are longitudinal in nature to allow us to make any inferences about trends over time regarding antisocial and violent behaviour. It is important to acknowledge, however, that the constrained scope of the review brings with it several limitations. In particular, it may be the case that conducting this literature review only in English eliminated some pieces of research more relevant to the Qatari context, which may have been published in Arabic.

While the research identified in this review may be useful for policymakers and other stakeholders who are interested in understanding fan behaviours and the factors behind them, and may serve as an initial

foundation for other researchers to build upon, it is difficult to draw any hard conclusions, let alone examine causality among the variables of interest, based on our review of the literature. There are clearly numerous avenues for future research in the field that may address the evidence gaps identified in this report. In particular, more rigorous and reliable analysis of the factors driving violent and antisocial behaviour, including using comparison groups, which give researchers insights into how behaviour may differ in different circumstances, is needed here.

As a first step, researchers might take the factors identified in this review as a starting point and test whether the findings presented may be validated. Of particular relevance to this research study, fan behaviour at international football events, across a variety of cultural settings, specifically requires wider and more rigorous analysis, given the different characteristics of international and domestic tournaments.

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## Annex A. Methodology

To address the research questions set out in the introduction of this report, a rapid evidence assessment was carried out to identify and review literature. Unlike a full systematic review, which aims to search the entire evidence base comprehensively, the scope and coverage of the rapid evidence assessment was restricted through search and screening criteria selected to focus on the most relevant literature. This Annex sets out the methods employed in the review.

### Methods

We used several different ways of searching for relevant evidence. These included the following:

1. Three interviews with experts on crowd behaviour and safety from European law enforcement agencies, to help define the scope of the review and discuss relevant literature and key themes emerging from research in this field.
2. A preliminary search in Google Scholar, Web of Science and JSTOR databases informed by these early discussions, using a number of iterations of the following search terms: (football OR soccer) AND (crowd\* OR spectator\* OR fan\*) AND (behaviour\* OR behaviour\* OR incident\*) AND (antisocial/anti-social/anti social OR violen\* OR hooligan\* OR abus\*) OR alcohol\* OR (factor\* OR risk\*). The purpose of these searches was to identify search terms producing the most relevant results for this review.
3. Identification of three pieces of literature of relevance to this review. Final search strings were then tested by checking that these papers would be captured in the results.
4. A systematic search using a targeted search of criminal justice and behavioural science databases. We liaised with research experts from RAND's Knowledge Services team, composed of professional librarians and information specialists, to focus on the most comprehensive databases. For academic literature, the following databases were searched in the final review: **Web of Science, Scopus, PsycInfo and Social Sciences Abstracts**. In addition, grey literature was also searched using the following databases: **OpenGrey, IssueLab, OAISTER and Advanced Google search**. These databases were searched simultaneously by Knowledge Services, who collated the results from these databases before transmitting them to the research team.
5. 'Snowball' searching. All papers captured by the search were then analysed by the research team. Bibliographies and references cited in the literature, which met the criteria for inclusion in this review, were followed up on and identified for inclusion

in this review. Through this snowballing approach, four pieces of literature were added to the review.

All search results were screened by members of the research team against the inclusion criteria. Screeners consulted with each other during the early stages of the review (the first four studies) to ensure consistency in the process. For the papers that met the inclusion criteria, the evidence was analysed and synthesised and the findings interpreted and presented in this report (see below).

## Inclusion criteria

The **inclusion criteria** were as follows:

Included in the rapid evidence assessment
Articles in any language
Articles reporting primary research
Grey literature
Articles published after 2005
Research from or about any country
Systematic reviews/rapid evidence assessments

The **exclusion criteria** were as follows:

Excluded from the rapid evidence assessment
Commentaries, editorials and features
Research relating to sports other than football
Narrative reviews

## Search terms

**Search terms and synonyms** were as follows:

(football OR soccer)  
AND

(crowd\* OR spectator\* OR fan OR fans)  
AND

(behaviour\* OR behavior\* OR violen\* OR antisocial OR anti-social OR "anti social" OR alcohol\* OR hooligan\*)  
AND

(strateg\* OR prevent\* OR respon\* OR measure\* OR effect\* OR polic\* OR reduc\* OR assess\* OR evaluat\*)

## Databases searched and numbers of studies found

The research team liaised with research experts from RAND's Knowledge Services team to focus on the most comprehensive and relevant databases. Initially, we proposed searching **Web of Science, Scopus, PsycInfo, Social Sciences Abstracts, JSTOR and Google Scholar** for peer-reviewed research. It was subsequently decided to exclude JSTOR from the searches, as the database produced thousands of irrelevant results. Furthermore, Knowledge Services advised excluding Google Scholar, as the search engine cannot support sophisticated search strings, does not allow the exportation of more than one citation at a time into EndNote and returns results of which most, if not all, would be found in the other academic databases. In addition, grey literature was also searched using **OpenGrey, IssueLab, OAISTER and an Advanced Google search**.

The search did not set language restrictions, but all search terms were in English. Upon consultation with the experts, it was decided to restrict the database search to relevant publications produced after 2005, as both

crowd behaviour and safety strategies have evolved markedly in the past 20 years, and including older literature in the review was likely to produce findings which did not reflect the current context.

Search results were imported into a single EndNote file and combined with the literature identified in the previous review. After removal of duplicate studies, the titles and abstracts were screened by two researchers (LS and JP). Full papers of potentially relevant studies were retrieved and a final judgement on eligibility was made by four researchers (LS, GB, JH and JP), with three studies being reviewed by the researchers to confirm that the inclusion criteria were consistently applied.

Data from relevant studies was extracted by four researchers (LS, GB, JH and JP) into a standardised template. Before the studies were allocated to the researchers for extraction, a paper was selected at random and all four researchers reviewed and extracted it to ensure consistency in approach across the research team. Study findings were analysed to identify any themes and a narrative synthesis of these themes was provided. In total, we identified 510 publications across the different searches, and following a review of titles and abstracts, 34 studies were considered to be relevant for inclusion. In the majority of cases, the decision to exclude a publication was made due to the publication not containing primary research or not relating to fan behaviour specifically at or around football matches.

### Search results (academic and grey databases):

Database	Search terms	Number of results
<b>Web of Science</b> Indexes=SCI-EXPANDED, SSCI, A&HCI	TOPIC: (football OR soccer) AND TOPIC: (crowd* OR spectator* OR fan OR fans) AND TOPIC: (behavior* OR behaviour* OR incident*)	<b>Results: 244 - American football references = 220</b>
<b>Scopus</b> Article, Review, Article in Press	(TITLE-ABS-KEY ((football OR soccer)) AND TITLE-ABS-KEY ((crowd* OR spectator* OR fan OR fans)) AND TITLE-ABS-KEY((behavior* OR behaviour* OR incident*)))	<b>Results: 324 -American football references 296 – duplicates = 148</b>
<b>PsycInfo</b> Academic Journals and Reviews	football OR soccer AND crowd* OR spectator* OR fan OR fans AND behavior* OR behaviour* OR incident*	<b>Results: 221 -American football references 202 – duplicates = 99</b>
<b>Social Sciences Abstracts</b> Academic Journals and Reviews	football OR soccer AND crowd* OR spectator* OR fan OR fans AND behavior* OR behaviour* OR incident*	<b>Results: 53 - American football references 50 – duplicates = 19</b>

Database	Search terms	Number of results
<b>OpenGrey, IssueLab, OAISTER, Advanced Google search</b> PDF files only	football crowd* OR spectator* OR fan OR fans "behaviour " site:.org.uk filetype:pdf football hooligan* "behav*" site:.org.uk filetype:pdf football "behav*" spectator site:.gov.uk filetype:pdf soccer behav* crowd site:.gov.uk filetype:pdf football anti-social OR antisocial OR alcohol OR hooligan* "spectator*" site:.org filetype:pdf soccer anti-social OR antisocial OR alcohol OR hooligan* "spectator*" site:.org filetype:pdf anti social behavior football spectators europe filetype:pdf	<b>Results: 24</b>
<b>Total number of results from academic databases: 486</b>		
<b>Total number of results from grey literature search: 24</b>		

# Annex B. Data extraction template

**Table 1. Data extraction template – Part 1**

	Coder
<b>General</b>	Full reference
	First author
	Year
	Brief summary
	Include?
	Format of document
	Type of data used
	Type of sporting event
	Year of event
	Country of event

**Table 2. Data extraction template – Part 2**

	Country of origin of perpetrator
	Specific groups of perpetrator
	Country of origin of victims
<b>Behaviours</b>	Type
	Scale
	Used to capture behaviours/ factors
	Alcohol/drugs
	Sporting rivalries
	Special factors
	Socio-political
	Structural
	Psychological
	Reaction to play
	Stadium atmosphere
	Other
	These factors are interlinked (if at all)?

**Table 3. Data extraction template – Part 3**

<b>Assessments</b>	Yes/No
	Type of evaluation
	Type of data used to capture effects
<b>Limitations</b>	Explicitly reported
	Any other coder comments
<b>Quality assessment</b>	RAG scores T