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Applying cognitive analytic theory to understand the abuse of athletes on Twitter

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ABSTRACT

Purpose/rationale: Athletes and governing bodies have raised ethical concerns related to the negative psychological effects of Twitter for professional athletes. There remained a need to systematically understand the processes involved in negative fan athlete social media interactions by categorising social media data using psychological theory. This study aimed to examine the attributional (specific or global negative comments) and contextual (sport-specific and general life context or "no context") factors of Twitter content that were Tweeted by fans about high profile sports people.

Research methods: In order to retrieve preliminary social media data to explore this phenomenon, Tweet data was collected data using Twitter's Search API related to the top 10 highest-paid athletes (a crude initial ranking of "*high profile*") as ranked by Forbes, 2018 and the data was retrieved on Friday 26th of April 2019. The search and retrieval strategy used a combination of sentiment analysis and qualitative filtering in order to isolate negative tweets directed at sports athletes.

Results and findings: Preliminary findings highlighted that negative tweets directed at sports athletes can be accurately classified into three broad themes: (i) global negative projections (no context) (ii) global negative projections (sport performance context), and (iii) specific negative projections (personal context). The socio ecological theory was used as a holistic model to understand the broader processes involved in fan athlete social media interaction when considering these types of negative engagement between fans and athletes.

Implications: Twitter can be used as a means for the public to direct negative projections towards athletes and our study puts forward a number of applied and research recommendations for researchers and sport management staff to educate and protect athletes from the negative consequences of "*twitter abuse*".

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Twitter; high profile sports people; socio ecological theory; negative projections

Introduction

The recent surge in the use of social media and digital channels has changed communication practices substantially and this change has been further accelerated by the COVID-19 pandemic (Davis, 2020; Hayes, 2020). Twitter provides sport organisations and athletes the opportunity to communicate with fans and strengthen fan team and athlete identification (Keegan, 2021; Meng et al.,

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2015). There is also a potential "*dark side*" of social media engagement in sports fans. There has been a reported increase in online abuse and the dehumanisation of athletes, particularly following match performance errors or personal life faux pas (Duggan & Brenner, 2012; Lenhart et al., 2010) this was most notable in the treatment of England football players following their defeat against Italy in the Euro 2021 final.

Given the surge in social media usage (Singh et al., 2020) and recognition of the need of sport governing bodies and organisations to support mental health of elite athletes (Poucher et al., 2019), there is a need to provide an evidence based and theoretically driven framework to understand fan social media use, particularly in relation to social media abuse or negative commentary. Therefore, this paper aimed to explore the nature of negative tweets directed at high-profile athletes in order to provide a theoretical framework and coding strategy to explore sport fans use of social media. This will then allow for practical recommendations for sport managers and organisations to support athletes with social media "abuse" and their engagement with social media platforms. Providing a more nuanced understanding of negative fan behaviour will allow athletes to make sense of the motivators and drivers of sport fans, to mitigate the negative effect of social media abuse on their psychological well being. To support this aim, we also sought to provide tailored recommendations for professional athlete social media training interventions to support and protect athlete well being.

Literature review

Recent research has also confirmed that biased and stigmatised racial views targeted at high profile football players have increased on online platforms (Kilvington & Price, 2019). Other findings suggested that without an intermediary or filter for online athlete profiles such as Twitter, athletes can negatively impact their professional reputation. It is therefore important for sport communication managers and personnel to help athletes increase the benefits of social media whilst managing the risks. In order to achieve this aim, it is important that research explores the motivations of fan and athlete Twitter users alongside the nature of the risks and benefits associated with Twitter engagement for athletes (Browning & Sanderson, 2012). Moreover, the use of negative language on Twitter from athletes is problematic and better understanding this behaviour can assist sports support staff and personnel to support athletes who experience social media abuse (Sanderson & Truax, 2014).

The interactive nature of Twitter enables users to gather increased levels of social capital and support from other users in the form of retweets and Twitter thread volume. Sport fans, enthusiasts, sport professionals and athletes use Twitter to share concepts, ideologies, research, practice, performance outcomes or reflections (Williams et al., 2014). Twitter has been shown to be a powerful marketing tool for athletes and an important professional network resource for individuals in sport and related professions. Hambrick et al. (2010) has examined the motivations of professional athletes for using Twitter to promote their athletic profile. Using content analysis it was found that Twitter appeared to be used in six ways: *interactivity, diversion, information sharing, linking to content, fan-ship,* and *promotion*. Sport managers can take these factors into consideration when training athletes with social media use, i.e. be aware of any potential negative effects of these motivations, e.g. a high drive for promotion in athletes could bring about the enactment of extreme behaviour or eccentric posts that could attract negative fan attention. Research has also examined the motivations of sports fan Twitter users.

The reasons for the popularity of Twitter in sport fans are evidently different; a primary motivation for engagement is the increased

and immediate "*live*" access to athletes performances and lives (Sanderson, 2013). Research has also shown that for many sports enthusiasts, their fandom is an integral part of their identity (Wann et al., 2000) and other related research by Wakefield and Wann (2006) has demonstrated that these grounded attachments to athletes and teams can provoke maladaptive emotional responses and behaviours when the athlete fails to meet their expectations (Wakefield & Wann, 2006). It has been shown that fans with strong sport fan or team identities have an increased tendency to enact dysfunctional behaviours at sporting events and are higher consumers of sport media formats. As such, social media has created another realm for conflict between fans and athletes and hostile language directed at athletes (Sanderson, 2011).

Digital media allows individuals (a) a wealth of options to express their identity through dialogue and imagery (Hermans, 2004) and (b) quick navigation between different "*identity positions*" that can be understood as different facets of one's digital identity (Mudrick et al., 2016). Moreover, Kassing and Sanderson (2002) found that Twitter allows fans to present what they perceive it means to be a "*true*" fan through their reactions to athletic failures. Taken together, these factors (fan's strong identification with athletes and the ease with which they can access desirable identity positions online) mean that (a) negative athlete social media attention for professional athletes is likely to be widespread; (b) the fans representations and understanding of their sport identity and fan athlete connection is experienced differently via social media platforms to live events.

To examine the type of negative content tweeted by fans, Kassing and Sanderson (2009) analysed 938 fan Tweets directed at student athletes (taken following a performance loss in 2013) that contained hostile and vitriolic language. The Tweets contained the following maladaptive para social interactions; (a) *belittling* (b) *mocking* (c) *sarcasm* and (d) *threats*. The authors concluded that resources and interventions to support coping in athletes are necessary to support their well being. This study examined student-athletes rather than professional athletes and it is important to consider that internationally known athletes are likely to interact with social media in different ways. For example, some professional athletes may have social media managers whilst some manage their own accounts. This use of negative language on Twitter towards athletes is problematic and better understanding this behaviour can assist sports support staff and personnel to support athletes who experience social media abuse (Sanderson & Truax, 2014).

The consequences for athletes from negative interactions on social media remain relatively poorly understood. MacPherson and Kerr (2019) qualitatively examined 7700 tweets and found that fans engage in public shaming of athletes following norm violations. Fans manifested this external shame projection by withdrawal of support and descriptions of the desired physical, psychosocial and career-related consequences for the athletes. In a related study, Fink et al. (2009) found evidence to suggest that the unscrupulous actions of athletes outside of their competitive sport can reduce fan team or athlete identification and satisfaction. The dynamic interplay between athletes and fans can be understood from the cognitive analytic theoretical (CAT) framework which suggests that relationships occur as a consequence of a complex dynamic interaction between two or more individuals (Ryle & Kerr, 2020). The framework posits that people are motivated to reduce anxiety or negative emotions (such as shame) that arise in relational interactions and some less adaptive responses can include projection or denial. From this perspective, it can be understood that fans are motivated by intense anxiety or negative emotions that arise from their strong identification and investment in the performance of the teams they support, and this intensity is

synonymous with that which is experienced in intimate relationships.

There have also been few studies on the topic of social media fan abuse that have been guided or underpinned by relevant psychosocial theory. One psychosocial theory that has been applied in health and education contexts is that of, the socioecological theory (Bronfenbrenner, 1989). The socioecological theory emphasises the notion that behaviour occurs within a multifaceted social context and people are motivated to maintain social status or perceived power. Moreover, those who are perceived to possess more social status or power are seen as potential targets of negative social behaviours in groups. Previous research on negative social actions considered to constitute bullying behaviours has incorporated this framework to better understand the motivations of bullies and the efficacy of interventions to reduce bullying (Shams et al., 2018). This model posits that microsystem influencers (peer relationships i.e. the behaviour of other fans), mesosystems (behaviours of the club), and macrosystems (social media policy and sport governing body policy or actions, e.g. Football Association). These factors are important both when interpreting and understanding bullying behaviours and when developing effective, holistic interventions to address such socially damaging behaviours (Lee, 2010).

In terms of training and support for online abuse, Bennet and Jonsson (2017) highlighted the interest in social media education and training from sporting organisations including the Football Association partners "*Kick It Out*" programme (dangers of social media and reporting online abuse). It was found that Football clubs still report a need for further social media training for managers and athletes. A unified approach to social media training for athletes and communication managers is lacking as select clubs offer their own bespoke sessions and sport managers have reported confusion related to their role in supporting the players with social media abuse (Bennet & Jonsson, 2017). Other research has also highlighted the complexity of managing abuse "*offenders*" and developing appropriate rehabilitation interventions. It is important that research understands negative fan-athlete Twitter interactions to develop evidence based and unified recommendations for sport organisations.

The existing research on this topic has used computational linguistics to understand large datasets by describing the similarities and differences between groups on their differential language use. However, in our study, we took a data-driven collection of words, phrases, and topics extracted from Twitter (Ahmad & Siddique, 2017) in which we then examined the nature of the linguistic content to better understand the categories of negative social media content directed at athletes.

Methods

Data collection

Twitter's Search API was used through the use of a desktop application, NodeXL (Ahmed & Lugovic, 2019) to retrieve data on the top 10 highest-paid athletes as ranked by Forbes, 2018 list (*"Forbes' 2018 List"*). Data for the top 10 athletes was retrieved on Friday 26th of April 2019 going back in time 7-days. These included athlete's competing in American football, association football, boxing, mixed martial arts, tennis and basketball. In order to retrieve data, we used both the Twitter user-handle (if the athlete was on Twitter) and/or the name of the athlete. This would retrieve keyword mentions as well as "@" mentions.

Data analysis

We explored the nature of online tweets relating to professional athletes in order to establish the emotional valence of tweets directed towards the athletes. We categorised the Tweets into the categories, (1) Positively toned (e.g.

performance successes), (2) Negatively toned (negative performance appraisal comments, personal insults or abuse, references to performance errors or negative personality or performance appraisals) or (3) Neutral (sharing performance outcomes with no bias, reporting on competitive related news with no bias, sharing threads or news that was neutrally toned). We then further examined the nature of negative tweets in order to develop insights into the type and nature of negative Tweets that are directed at professional athletes. We used NodeXL's built in sentiment classifier, which draws upon the Opinion Lexicon (Khoo & Johnkan, 2017), to extract the top 100 most negative tweets directed towards the sports athletes listed above. We then manually verified these tweets and filtered out non-negative tweets and this process was undertaken by the co author who delivers training on NodeXL at international workshops and conferences. This step was necessary to ensure accuracy as the sentiment classifier utilised may incorrectly label certain posts as negative. Once negative tweets were identified we then placed screened tweets into an Excel spreadsheet and we employed inductive (initially to identify key emerging themes from the raw tweet date) and deductive (to next categorise further tweets in the developed theme framework) thematic analysis (Braun & Clarke, 2006; Nowell et al., 2017) to identify overall themes of negative content. Thematic analysis is a qualitative method in which intercoder reliability is not normally produced. Given that research of this type is relatively novel, our goal was to retrieve a manageable "*snap-shot*" of social media activity to sample the nature and number of negative tweets directed towards Twitter users. Therefore, it was decided that one week of Twitter data would allow for sufficient engagement for a meaningful but manageable analysis. The project had received Ethical approval from the University prior to data extraction and analysis.

Thematic analysis was used to systemically identify themes of negative tweets. We used Braun and Clarke's (2006) recommended protocol for thematic analysis using both deductive methods (i.e. existing psychological theory and research on language analysis including social context [Reeder et al., 2013] and globality [attribution theory; Weiner, 2010] to define the linguistic properties from which we categorised the qualitative tweets). For example, global (rather than specific) refers to a judgement made about the person holistically ("*He is a $5@*)" or relating to them across time and context (e.g. He always misses critical saves'). We also used inductive methods to allow for the flexibility of themes to emerge naturally from the data and to ensure that our deductive method did not restrict valid data capture and organisation. The analysis involved first extracting twitter data to be repeatedly read by the researchers independently. During this stage of the data analysis, initial patterns were highlighted using the deductive coding process as a guide. Next, the researchers began to generate initial codes to capture the Twitter data in a meaningful way with reference to valence and globality. Initial labels and descriptions were then attributed to the Tweets, e.g. "*general insult", "performance error"* and also of particular focus were the expressions of emotions such as *"anger"*, and "*frustration*". We wanted to capture the emotional content in order to better understand the likely emotional consequences of the Twitter content for athletes and the motivations of Twitter users. In the next phase, when the theme headings began to evolve, the data was searched thoroughly again to categorise further data into the initial generated themes and codes. During this stage, refinement of the coding and theme labels was possible (inductive) to allow us to capture a comprehensive range of relevant tweets in a meaningful and manageable manner. After this stage, the finalised themes were outlined and defined. The researchers then compared theme headings and a significant degree of agreement was evident (owing in part to the

structured approach to theme organisation developed prior to data analysis) and any disagreements in data categorisation (of which there were few) were resolved through discussion. In the final part of the data analysis process, themes were presented using specific anonymised tweet examples to illustrate the theme categories. Following initial thematic analysis and coding (for roughly 50% of the data) we developed an exhaustive, yet flexible coding system to categorise the tweets. The final thematic matrix consisted of the themes of "*context*" (sport performance, general life, no context) and "*specificity*" [global statement directed at the "whole" person (e.g. general insults or negative phrases) or a specific statement directed at a specific performance action (missed shot) or personal trait (e.g. personal life violence)]. In this sense, we grouped tweets in terms of context, e.g. sport performance or an event. We also categorised tweets in relation to the focus of the negative tweet, i.e. whether that be specific to an athlete performance error, a personal event or a career achievement/failure or with no specific focus. Three final interaction themes were identified.

Results

Theme 1: global projections (without context)

This group of Tweets included negative tweets and content which contained little context but involved derogatory or offensive language with sport-specific negative terms such as "*loser*". They included tweets such as:

> @Userhandle You are a loser!
>
> You are a joker! @Userhandle
>
> @Userhandle sucks!

There was no reference to specific sporting events, behaviours or characteristics of the athletes but instead, global negative and disparaging comments. Select Tweets could be deemed to violate Twitter's terms, however, Twitter does not screen Tweets at the time of publishing. This globally directed offensive language can be deemed hostile or verbal aggression (the intention to harm another or the knowingness that one's language may harm another is present in these types of tweets).

Theme 2: global projections (sport performance context)

There were a number of Twitter users who sent tweets to athletes in an attempt to undermine their competence:

> Lazy and overrated @userhandle
>
> @userhandle is so bad, he never fails to disappoint in being so bad
>
> @userhandle is really bad, no idea why they have fans!

In these cases, Twitter users are not referring to a specific event within sport by a recent performance and/or be fans of rival sports stars. It could also be possible that users who are fans of a player become angry at a recent loss in a competition and use Twitter to express their views. Users who place the userhandle towards the end of the tweet will make the entire tweet visible to their followers, whereas users who begin with the Twitter handle will have their tweets appear only in the "tweets and replies" section of Twitter. In terms of tweets referring to performance errors, the majority of negative content was targeted towards global projections of athletes rather than specific performance errors, e.g. missing a penalty or losing a particular match.

Theme 3: specific projections (personal context)

There were also a number of Twitter users who would comment upon the personal life of an athlete, such as:

@userhandle is a wife beater

@userhandle's daughter is a joke

@userhandle why don't you talk about your rape rumours?

In terms of personal abuse directed towards high performance athletes, Twitter users appeared to make specific negative comments about events or accusations in the popular media. In this instance, the abuse was targeted towards a specific "perceived or projected" negative personal event or accusation rather than a global criticism of the individual.

Discussion

This study used sentiment analysis to analyse and organise tweets from fans towards high profile athletes, in order to better understand online fan-athlete interactions. In doing so, cognitive analytic theory framework and evidence from social and digital marketing and fan behaviour research were used to develop a coding framework for deductive qualitative data analysis of the quantitative NodeXL analysis data. In the final thematic results matrix, global negative comments were found to be commonly used by fans. Global negative comments without reference to context can lead to confusion and rumination in athletes due to a lack of clarity and understanding (Douglas & Skeem, 2005). It is important to note that it is unknown whether these Twitter users are acting out of the intent to harm. The Tweets could indicate an impulsive emotional response from fans that is motivated by a desire to relieve anxiety and intense emotions experienced in the moment. Previous research has found that there is a strong correlation between sensation seeking and online social media use (Blakeney et al., 2010) and fans could use social media platforms to meet these socioemotional needs and to cathartically release negative emotions such as tension, frustration and anger (Leung, 2013). The target of their frustrations (professional athletes) has higher socio-economic status and perhaps provides fans with a socially and morally (reduces perceived harm) acceptable way to displace negative emotions in their sport identity position online. Therefore, the readily accessible and dynamic relationship that fans have with athletes online combined with the perceived superhuman qualities of athletes could increase athlete dehumanisation. This level of negative fan response could also be explained by the socioecological model in that there is a tendency of fans to intensely reject poor ethical and moral sportsmanship behaviour (Kavussanu, 2008). In order to mitigate the desire of sport fans to minimise the social status of athletes and to project intense negative emotions, athletes may benefit from providing fans with an insight into their more vulnerable and personal profiles in a controlled and managed way online.

The study analysis also suggested that negative tweets from fans about athletic failures were typically global statements. This kind of criticism or abuse has greater potential to undermine the self esteem (Yun et al., 2019) of players in that it criticises the person (intrinsically linked to global self-esteem), rather than the action (the possibility of changing the action in the future and attributing that to controllable factors is greater). In order to mitigate these potential negative effects on psychological well-being and performance state, athletes would benefit from developing an increased understanding of the psychological explanations for fan abuse and to develop strategies that they can employ to protect themselves from the negative consequences of negative attacks. In contrast to sport-related negative comments, the negative tweets directed at the athlete's personal life were specific. These negative comments are related to a specific family member or a specific personal attribute or event. This could illustrate the way in which people tend to understand negative evaluations of themselves and others, i.e. if the negative tweet related to their sport

performance role, users felt a global criticism was warranted. However, if the negative tweet related to personal life, it appeared that users questioned and examined the specific personal accusations. Further research may wish to examine these differences in fan tweets directed at different athletes, including female athletes who are typically represented differently in the media (Popa & Gavriliu, 2014).

The strong fan athletic identity and feeling of ownership towards professional athletes could explain the volume of negative-specific Tweets directed at athletes. Typically, media coverage of the personal life of athletes and potential controversy is typically mixed in terms of accuracy (Frisby & Wanta, 2018). Therefore, the negative response from fans could indicate a perceived failure of athletes to meet the fans expectations and provide acknowledgement, clarity and an explanation of the controversy. It could be important for athletes to directly address any failure to meet the expectations of fans.

A notable limitation of our study was that it only retrieved tweets in English and for some fans may have been tweeting in other languages, which our algorithm failed to detect. Moreover, United States represents a larger proportion of Twitter users than other countries. Future research could seek to examine a larger sample of tweets over a longer period of time in order to improve reliability of the results and control for the effect of context (e.g. purposefully sampling after recent athlete and team performance "failures"). Social media can be context driven e.g. based on the outcome of a specific game or sports season. This would likely influence the volume of negative tweets that specific athletes would receive. However, this exploratory cross sectional study extracted a manageable Twitter data set to explore negative fan Twitter engagement. Further research could include longitudinal data and purposeful sampling to identify changes in fan Twitter data in relation to athletes after key athlete personal and sport-related events and performances.

We propose two key recommendations proposed to support professional athletes to develop an informed approach to twitter use and engagement (Browning & Sanderson, 2012). Firstly, in terms of direct athlete support, an educational approach to understanding the nature of online abuse from a cognitive analytic theory and socio ecological perspective and thereby enable athletes to understand the nuanced and complex dynamics that underpin fan abuse. The framework and themes outlined in this study could provide a mode through which athletes can understand the motivations and sources of fan of abuse. Secondly, educating athletes to better understand how they can lessen the risk of negative trolling by providing some controlled clarity to events in their personal lives on Twitter profiles could be helpful. Research has shown that high profile celebrities are less scrutinised if they proactively engage with their fans and provide their narrative prior to media and other sources (Jersley, 2016). Further to lessening the impact if fan abuse occurs, this psychoeducational approach would likely increase athlete personal control and sense of empowerment (Englert, 2016). This is likely to mitigate any negative consequences of negative social media attention on athlete psychological well being.

In order to embed this training in the culture of professional sports clubs, it is important that the whole system and club approach their social media representation with evidence-based approaches. In summary, it is important for professional athletes to receive support with their personal and social media profile impression management by understanding the nature and types of negative tweets and motivations of Twitter users for expressing such views. The triggers for these negative responses in fans are also important to understand and particularly those that athletes and sport communication management teams can control and manage.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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