**Discussion**

This study sought to explore the self-presentation strategies used by professional sports people in the Twitter landscape and discover possible differences between genders. Five clusters were developed to help view athlete behaviour on Twitter. Significant gender variance was found in terms of the number of followers athletes were able to attract, as well as the influence athletes have established as content producers - male athletes enjoying sizeable advantages in both cases.

The cluster analysis groups analyses the data and groups the words into clusters. Some of the words will be in more than one cluster as the same word can have different meaning depending on the context. In a lot of qualitative text analysis on tweets the researchers use frames and each tweet is placed into a specific frame which can miss out on some subtleties within tweets. If a tweet could be in two frames the researcher has to decide on which frame to place it in. If there are enough of these decisions to be made then the researchers decisions can have an effect on the final results. With this cluster analysis method more of these subtleties should be found and hopefully a more rounded view of the underlying data structures can be discovered.

It was observed that both male and female athletes had clusters representing 'game days' as well as, 'interview / photo-shoots'. The female athletes also had a cluster representing 'birthdays'. This cluster could be seen as an extension of the 'celebration' cluster but seemed to develop in to its own cluster as there were so many birthday wishes sent and received. This may have resulted in a slight skewing of the clusters for female athletes. To test if this did indeed alter the results further analysis was done that involved adding birthday related terms to the stop words list to see what new clusters would emerge as well as generating 6 clusters to see what 'extra' cluster would be generated. When adding the birthday words to the stop list the resultant clusters were the same as before but the birthday cluster was replaced by one that was an extension of the 'feeing happy' cluster with words including, 'fun', 'feel', best', 'luck' and 'ready' emerging from tweets like, 'It's ready...SO excited to have co-written these brilliant children's books with elen\_caldecott' from Jessica Ennis. When the birthdays words were left in and the number of clusters was increased to 6, the extra cluster was again a 'feel happy' related cluster.

One thing that emerges from the cluster analysis is that the male athletes have three clusters that have a strong connection to their sport i.e. the 'team', 'hard work' and game day' clusters. Whereas the female athletes only have one cluster (Game day) which is strongly connected to their sport. When the word cloud is then looked at we see that the top words for female athletes are: love, happy, good, game and women. The top words for men are: good, game, team, congrats, happy. This again points toward male athletes tweeting more about sports teams than female athletes.

Looking at the word count we see that the biggest differences between the word counts for female and male athletes is that female athletes referenced 'women' 51 times compared to the 17 times male athletes referenced women. This is 66.67% more than men. When it comes to references to 'men', women made a reference 13 times and males made a reference only 9 times. So it seems that there is a high correlation between women and women's topics where there is little or none between men and men's topics.

The words where men ranked significantly higher were, team, good, today. These words were nearly always used in connection with a comment about a sports team.

From this is seems that women a have a strong tendency to tweet about women and trying to forward women's sports, women's issues and female equality. Alex Morgan commented that she was, 'Proud to fight side by side with these strong women to continue to move the ball forward for the next generation', she also tweeted that, 'The pay gap penalizes women who work hard every day. It hurts our families, businesses and communities. Let's #ChangeTheGame #20percentcounts"'. Ana Ivanovic tweeted that she was, 'Having fun on set with @intimissimi and @mariotestino for the new campaign that celebrates empowered women'. Serena Williams tweeted that, 'On average, women in the US are paid 20% less than men. Black and Hispanic women are paid even less. I support equal pay', this was then retweeted by Caroline Wozniacki.

Men on the other hand tended to tweet about gender neutral themes such as sport and family. Male athletes tweeted in reference to a 'team' 93 times more than women. Kobe Bryant said that he was, 'Excited to be a part of the team'. Cristiano Ronaldo said, 'Great session this morning!!!! Winning team'. Sachin Tendulkar said after a cricket test match, 'What a fabulous way to end the test series! A big hug to the entire team for their outstanding performance. While Carmelo Anthony tweeted that, 'We Are Not A Team Because We Work Together We Are A Team Because We Respect, Trust And Care For Each Other'. When it came to referencing 'family' or 'families' male athletes tweeted 64 times, where female athletes referenced family or families 33 times.

Findings from a study by Backman, Pertick and Yoon (2017) revealed that team attraction, team trust, and team involvement are positively related to team attachment and these are determinates of fan loyalty. While team attachment was found to positively influence fan loyalty, sport fans’ Twitter use was found to significantly reinforce their loyalty. They also found that ' the more sport people strengthen the relationships with their fans through Twitter, the more likely those fans will be committed and attached.'

Haugh and Watkins (2016) found in their study that there is , 'a clear pattern for social-media use by sports fans'. Twitter is the leading destination for fans wishing to gather information, seek entertainment, show support for a team, express opinions on the team, and learn about rules and strategies pertaining to a sport. This follows on from research by Clavio and Walsh (2013) which indicated that the highest level of social-media use among their sample of college sports fans was to watch videos.

Further research by Gibbs et al. (2014) found that there are 4 primary gratifications sought by Twitter users: interaction, promotion, live game updates, and news. Users wanted to hear about players and roster moves as they happen, learn information faster than other people, read tweets if unable to watch the game, learn about upcoming games and access special promotions.

If sports fan are accessing twitter to receive information related almost exclusively to the sport in which the athlete they are following is a participant it may be that male athletes willingness to tweet to this very requirement is a factor in their greater number of followers.

**Limitations and Future Research**

Whilst the results of this research are promising, there are limitations that should be addressed. As this is one of the first studies to focus on evaluating the content of tweets using a cluster analysis method, further research is required to validate the methodology and the results. In addition, social-media content and platforms change rapidly. MySpace was one of the top social media sites as recently as July 2007 but by May 2011 it had fallen out of use (Google Trends. 2018). So this research should be seen as an inspection of a point in time. Future research could be used to identify trends in Twitter use and content over time.

Also this research combined individual athletes and team athletes together. Future research might wish to look at the differences that may exist between team and individual sports.

While this research has identified a difference in the way that male and female athletes tweets further research should be done to determine if indeed this has any correlation to why male athletes gain more twitter followers.

**Conclusion**

In a very competitive worlds of sport and sport-marketing, professional athletes are increasingly looking for exposure to gain publicity, attract fans, and eventually attract sponsorship and lucrative contracts. As this research shows, both genders have embraced Twitter as a way to engage fans, create positive exposure, and increase their visibility. Both male and female athletes tweet about their sport and their experiences of day to day life as a professional athlete. Male athletes tend to stay in this area whereas the female athletes also try to address women's rights inside and outside sport.

Of the studies that have been done concerning tweets by sport people most focus on using frames to analyse the data, with most of these frames stemming from Goffmans self-presentation theory. All of these studies, including this one, analyse what sports people are tweeting about but they don't address whether it actually effects the number of followers or the amount of enjoyment that followers get from following an athlete. Does it matter to men that female athletes tweets more about women's topics than male athletes. If it does matter, is the effect similar or not in individual sports compared to team sports.

**References:**

Google trends. 2018. MySpace [Online]. Available from: https://trends.google.com/trends/explore?date=all&q=myspace [Accessed 23 February 2018]