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## A Content Analysis of Social Media Posts among Recreational Cyclists: A Gender Perspective

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### Abstract

Recreational cyclists are pertinent but rarely studied leisure and tourism segment. Recreational cycling has traditionally been considered as a 'masculine stereotyped' sport. The purpose of the research is to better understand a gendered consumer view of recreational cycling and to possibly promote recreational cycling to women and men in countries like South Africa with keen interests of recreational cycling in the form of sport tourism. This research employs a content analysis of social media posts on Facebook, Instagram and Twitter as a research method. Specifically, the gendered nature of recreational cycling is focused upon. In total, 2,504 posts from 1,598 unique authors from South Africa are analysed. As a result, this research shows that in the South African context male cyclists tend to like to attend the specialised event and race for their health and fitness while female cyclists seem to find more enjoyable and family-friendly (children focused) cycling. The results also confirm the paradox that women are generally presented in more family oriented roles, while men are typically shown as more independent in the media. Managerial implications and future research are also presented.

**Keywords:** Recreational cycling; social media; gender differences; content analysis; South Africa

### Introduction

Cycling provides health benefits such as improved cardiorespiratory fitness and decreased risk of all-cause and cardiovascular mortality (Oja, Titze, Bauman, De Geus, Krenn, Reger-Nash & Kohlberger, 2011). Recreational cyclists are highly physically active, with involvement in the type of cycling making a substantial contribution to physical activity levels (Heesch, Sahlqvist & Garrard, 2012). As per this physical power and strength, recreational cycling has traditionally had a masculine dominance (Etminani-Ghasrodashti, Paydar & Ardeshiri, 2018; Heesch et al., 2012) and been regarded as a 'masculine stereotyped' sport. Gender norms and stereotypes are being challenged in sports. It has come a growing interest and concern in cycling behaviour (e.g., Heesch et al., 2012; Prati, Fraboni, De Angelis, Pietrantoni, Johnson & Shires, 2019). Recreational sport like recreational cycling is an important part of the tourism and leisure sectors and can take a variety of forms. Sport tourism, which involves people travelling to participate in sports, is one of the significant trends in tourism development plan

with involvement in recreational sports creating a high synergy with other sectors of the tourism industry (Okayasu, Nogawa & Morais, 2010). Especially, South Africa has increased its importance as a cycling destination over the last ten years, with the development of new cycling routes and trails, the global expansion of leisure cycling, and hosted a world class cycling events which have a huge impact on the cycling market (“Boom,” 2014; WESGRO, 2017). Therefore, this research can be used to improve our efforts to possibly promote recreational cycling to women and men in countries like South Africa with keen interests of recreational cycling in the form of sport tourism. The purpose of the research is to better understand a gendered consumer view of recreational cycling. Instead of more traditional survey or interview methods, however, social media contents are analysed. The advantages include the unsolicited nature of social media comments as well as the large volume and geographic scope of such research. Therefore, this research proposes the following research questions:

- RQ 1. What are the conversation volume and theme of cycling in the social media posts in South Africa?
- RQ 2. How does the content of male and female cycling in the social media conversation differ?
- RQ 3. What is the gendered difference of emotions regarding cycling in the social media conversation in South Africa?

### **Literature review**

People share personal experiences or opinions with others to further social recognition or reputation, which is rooted in social exchange theory by Kelley and Thibaut (1978). Particularly, in the social media context, individuals are attracted to post their stories with the potential to interact with others who have common interests, expand on their achievements and collect information (Heinrichs, Lim & Lim, 2011; Özsoy, 2011). According to Clavio and Walsh (2014), sports fans used social media platforms such as Facebook and Twitter for building interactions and gathering information, and Facebook users are motivated to engage with National Basketball Association (NBA) teams due to their passion, hope, esteem and camaraderie (Stavros, Meng, Westberg & Farrelly, 2014). While social media research in sport events has provided a foundation into the interrelationship between social media users and platforms from various perspectives (e.g., Blaszk, Burch, Frederick, Clavio & Walsh, 2014; Sharpe, Mountifield & Filo, 2020; Stavros et al., 2014; Vale & Fernandes, 2018), interesting findings with regard to gender differences have been highlighted in the existing research.

Using a feminist theoretical perspective, Antunovic and Hardin (2012) showed that bloggers increase the visibility of women’s sports through blogs, but broader social issues were not addressed by these sports. In addition, drawing on the theory of self-presentation by Goffman (1978), male athletes posted a wider range of photos on Facebook and Twitter to engage with their followers, but female athletes were more likely to share their personal and own photos of themselves (Geurin-Eagleman & Burch, 2016). Clavio and Eagleman (2011) found that there were more images of males than females in sport blogs, while those female images had a more tendency to be sexually suggestive in nature. The role of gender has been examined in sport and social media research streams, however, relatively little research attention had been given to gender differences in social media users’ behaviours in recreational sport environment.

In social media and marketing literature, generally, males are motivated by gaining general information and the entertainment aspect of social media, whereas females are motivated by maintaining close ties and the relational aspects of social media (Krasnova, Veltri,

Eling & Buxmann, 2017). Based on the cognitive social learning and sociocultural theories, gender variance exists between males and females due to the biological, behavioural, cognitive and social issues (Bussey & Bandura, 1999; Eagly & Wood, 1999), and has been one of the most important forms of segmentation used for online marketing strategies (Wolin & Korgaonkar, 2003). Thus, it is reasonable to assume that understanding how gendered differences are presented in social media platforms is essential for sport events marketing practitioners to make more effective social media channel and content, particularly in the context of traditionally masculine sport such as cycling (Prati et al., 2019).

## Methodology

Conversations about cycling were accessed via an application programming interface (API). The data were obtained through a GNIP subscription from opinion mining company, *BrandsEye*. GNIP is a social media API aggregation company; the company collects social media data from various platforms and subsequently normalises the data using a natural language processing (NLP) (Wang, Can, Kazemzadeh, Bar & Narayanan, 2012). Social media posts were collected from various platforms (i.e., Facebook, Instagram and Twitter for this study) between April and May 2017. The specific platforms were chosen for their high use and that limited studies utilise multiple social media platforms (Xiang, Du, Ma & Fan, 2017; IAB SA, 2019). Two months of social media data were examined and allowed capturing the lived experiences of cyclists in South Africa (Wang et al., 2012). In total, 2,504 posts related to cycling from 1,598 unique authors from South Africa were collected for analysis. To quantify the social media posts, a summative content analysis was conducted. This method is recognised research approach used in social media analysis and allows identifying themes (topics) and interpreting the meaning and context of the social media posts (Hsieh & Shannon, 2005). In addition, a combination of NLP and qualitative analysis improved the data's precision and interpretation (McKenzie & Swails, 2016; Lappeman, Clark, Evans & Sierra-Rubia, 2021). The data was analysed to measure frequencies of themes (topics) and emotions by gender. Topic analysis was used to understand the emotions behind the posts (Li & Yamanishi, 2000). The expression of emotions provoked by the posts was mapped to the basic emotions (positive or negative) by Ekman (1992). Positive emotions include "happy", "interested", "amazing", "enjoy", "pleased" and "hopeful", while negative emotions include "angry", "frustrated", "surprised" and "afraid", "scared" (Alm, Roth & Sproat, 2005; Robinson, 2008).

## Findings

The majority of cycling social media posts was from males (82.9%). From the theme analysis, twelve main themes were identified such as mountain bikes, events/racing, bicycle properties, outdoors, encouraging children to cycle, health/fitness, route quality, fun/recreation, road bikes, specific types of bikes, adventure and junior (children's) cycling. Both male and female cyclists spoke frequently about mountain biking, events, bicycle properties and outdoors. Among them, there was 6% more conversation volume from male than female cyclists with mountain biking being the most common theme as shown in Table 1. Interestingly, on the female social cyclists' posts, they spoke more about encouraging children to cycle and cycling for fun/recreation than males did. In addition, the topic of health/fitness did not appear at all from females' posts whereas it was one of the main topics among males. When females talk about the cycling, the words of "kids", "fun", "training", "friends", and "enjoy" were most frequently used. Figure 1 shows the examples of female cyclists' social media posts. Different from females, males were most likely to use the mountain biking including hashtag (e.g., #MTB, #mountainbike) when discussing their rides. Male riders also spoke more about "race", "event", "specialised" and "fitness" than females did as the examples are shown in Figure 2.

Male cyclists mentioned “races” and “events”, which were highly related to mountain bike and health as well as fitness. Female cyclists tend to discuss about bike route quality and recreational aspects of riding (e.g., biking setting, timing).

Table 1. Results of theme and volume analyses

Theme	Male (82.9%)		Female (17.1%)	
	Frequency	% <sup>2</sup>	Frequency	% <sup>2</sup>
Mountain bikes	976	36.1	129	30.1
Event / Racing	410	15.2	82	19.2
Bicycle properties	218	8.1	18	4.2
Outdoors	189	7.0	17	4.0
Encouraging children to cycle	11	0.4	21	4.9
Health / Fitness	129	4.8	0	0.0
Route quality	78	2.9	18	4.2
Fun / Recreation	63	2.3	17	4.0
Road bikes	89	3.3	12	2.8
Specific types of bikes	81	3.0	13	3.0
Adventure	24	0.9	2	0.5
Junior (Children’s) cycling	8	0.3	15	3.5
Other <sup>3</sup>	430	15.9	84	19.6
Total	2706 <sup>1</sup>		428 <sup>1</sup>	

<sup>1</sup>More than one theme identified in some social media posts. <sup>2</sup> Does not add to 100% due to rounding. <sup>3</sup>Various themes were identified, but not significantly identified.

The results also classified the social media comments as positive or negative. Both male and female cyclists commonly expressed their emotions associated with “mountain bikes”, “price”, and “road bikes”. Females (38.8%) more reflected the positive perceptions (e.g., joyful, interested, loving, excited) than males (31.7%), while males (1.6%) expressed the negative feelings (e.g., terrified, hesitant, frustrated, annoyed) slightly more than females (1.4%). However, there were still many neutral perceptions for both females (59.8%) and males (66.7%).

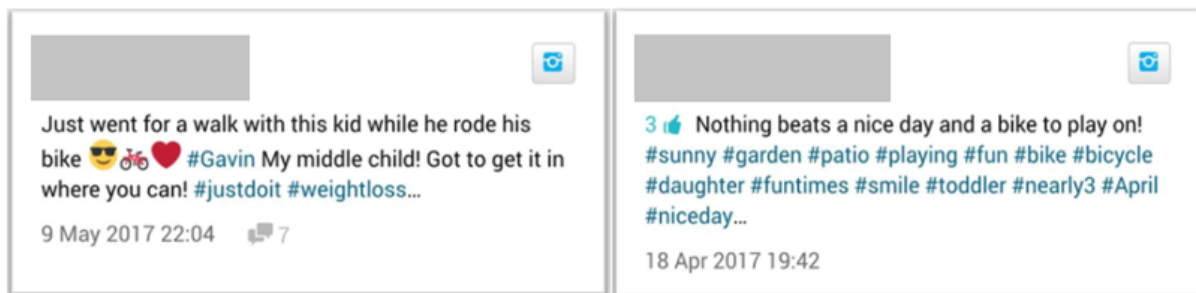


Figure 1. Social media posts from female cyclists

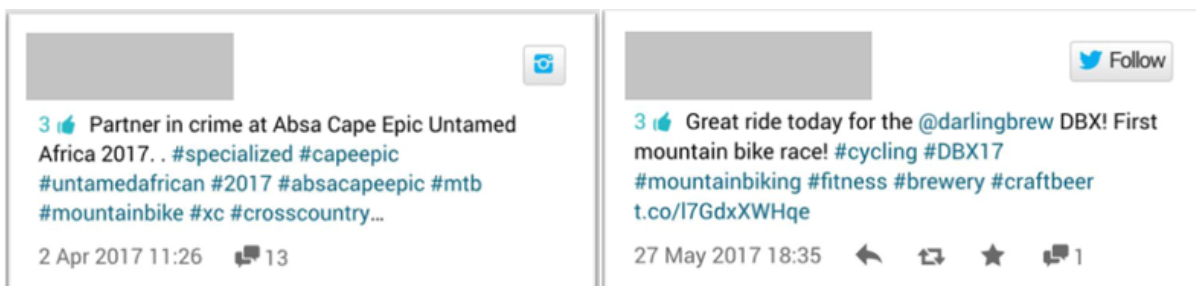


Figure 2. Social media posts from male cyclists



## Discussion and implications

The main aim of this study was to investigate the gender differences in social media posts among recreational cyclists in South Africa by analysing conversation volume, themes of conversation and emotions (positive or negative) of Facebook, Instagram and Twitter data. The findings suggest that gender differences in the likelihood of taking part in recreational cycling amongst social media users. In the line with literature (Krasnova et al., 2017), female cyclists talked more about relational aspects of riding with friends and family influence the way these riders experience racing events. The results also confirm the paradox that women are generally presented in more family oriented roles, while men are typically shown as more independent in the media (Uray & Burnaz, 2003).

Furthermore, female cyclists tend to discuss more about bike route quality and recreational aspects of riding. Aldred, Woodcock and Goodman (2016) identified that females tend to show their concerns about safety issue in cycling, which seems to be resulted in female cyclists' social posts on bike route quality. Unlike the previous research (Prati et al., 2019), this study found gender differences in cycling for recreation. Among male cyclists, health and fitness benefits from cycling seem more important, while female cyclists seek for more enjoyable and family-friendly cycling.

The findings of this study provide some practical insights for interventions aimed at promoting recreational cycling among females but also better improving recreational cycling among males. As female cyclists are likely to consider more bike route quality, recreational aspects of riding (e.g., biking setting, timing) and safety, event organisers need to provide cyclists with accurate and enough information of riding and emphasise the safety and quality in terms of cycling. There is no doubt at all that event organisers have duty of care to provide safe environment. Therefore, event organisers should recognise the possibility of injury damage or loss and have a means to prevent them or provide insurance. This iterative process consists of a series of steps in a systematic, proactive, comprehensive and cost-effective manner, therefore, when planning and implementing, event organisers ensure that adequate resources are available, and define a timeframe, responsibilities and a method. Furthermore, event organisers may also consider providing a well-organised volunteer and staff orientation program including their role information and instructions, as cyclists are likely to receive a better level of service from well-trained volunteers and staff. Also, female cyclists seem to find more enjoyable and family-friendly cycling, it would be good to consider and include socialised and enjoyable outdoors activities for their kids.

As male cyclists tend to like to attend the specialised event and race for their health and fitness, creating more a healthy atmosphere in which cycling is valuable and satisfying may influence male cyclists to engage in cycling again for future events. Therefore, event organisers should clearly describe and indicate messages and purposes of the cycling event through various platforms and methods such as social media and video. If the organisation highlights the extent to which cycling supports and contributes to keeping healthy and fit, male cyclist may be more orientated to the goals of their fitness and health by being aware of how attending the recreational cycling can contribute in meaningful ways. Then, eventually, neutral cyclists may start to turn to the positive and new cyclists would be more involved.

The limitation in this study is that cycling social media posts were dominated by male cyclists having specific race event accounts from South Africa. Smaller size of female cyclists is inevitable given that fewer female cyclists are involved. This is either a result of female cyclists actually being smaller in cyclist population or female cyclists being less likely to post contents on social media for some reason. This eventually affected the sample sizes in this research. The most efficient design may occur when each sample size is all equal. If the sample sizes are imbalanced, estimates from the smaller size sample will be less accurate (Eldridge,

Ashby & Kerry, 2006). However, given the uncertain nature of sample size calculations, sample sizes often vary. Therefore, the importance of small cluster sizes in an efficient design should not be overlooked (Eldridge et al., 2006).

This study investigated social media contents among recreational cyclists by collecting samples from South Africa. To be globally generalised, future research should consider other cases in other areas in order to reduce bias in the specific area. Also, social media analyses are still at a formative stage so the lack of well-established measures could be the main obstacle to examine the customer perception and behaviour toward the marketing activities over the social media platforms. Future research can develop more well-designed and various methodologies to enhance the validity and reliability of social media analysis studies.

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