Instagram Posts About Female Athletes Elicit More Negative Comments

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INTRODUCTION

- **Over half of high school females participate in sports and are influenced by portrayals of female athletes in the news media.**
  - Female athletes are underrepresented and frequently negatively represented (e.g. dismissed, trivialized, sexualized) in news media. One study[1] found 55.1% of comments about women athletes to be derogatory or of sexual/physical nature.
  - Such negative portrayals of female athletes have been called sociocultural level stressors[2] and shown to lead to lower self-esteem, confidence, and sports participation among girls.
- **Surveys show that over 90% of high school students use social media and it significantly influences social norms for them, especially related to sports.**
  - Following sports content on social media is very common among teens and it has been shown to impact their body image.
  - **Instagram** is one of the most popular social media platforms and is very popular among teens, with over 60% saying they use it.
  - **ESPN** is a very popular Instagram account among teens and has over 20 million followers.
- While prior research has evaluated the nature and impact of **news media coverage** of female athletes, research is lacking on the **nature and potential impact of user comments about social media posts of female athletes.**
  - It is important to understand the nature of user comments in order to better understand their potential impact on high school student-athletes.
- The purpose of this study is to evaluate **if and how user comments about ESPN Instagram posts of female vs male athletes differ** using two different methods:
  - content analysis
  - linguistic inquiry and word count (LIWC)

1Krieger et. al. (2022): Men's comments on elite women athletes: cultural narratives around gender and sport on Instagram. Feminist Media Studies.

2Pascoe et al. (2022): Gender-specific psychosocial stressors influencing mental health among women elite and semi-elite athletes. British J of Sports Med; 56: 1381-1387

METHODS

Study Population: Most popular **user comments on ESPN Instagram posts** about **individual male/female athletes: 50 posts X 5 comments = 250 user comments analyzed/included in study**

Data Collection

- All ESPN Instagram posts were sequentially reviewed in reverse chronological order, starting with posts that were **at least 14 days old at the start of the data collection period**
  - A 14 day cut-off was used to minimize the chances of a significant change in the number of "likes" and the specific Top 5 user comments to be included for any given post.
  - **Inclusion criteria:** posts of individual athletes; posts at least 14 days old
  - **Exclusion criteria:** posts about teams; posts including multiple athletes; posts not in English; posts limited to pictures (e.g. GIFs and memes); multiple posts about the same individual athlete*
    - It took **18 days** (female) vs **5 days** (male) to collect 25 unique individual posts of female and male athletes.
    - **421 ESPN Instagram posts were screened** during the data collection period (May 25 - June 11, 2023)

* If an athlete is posted multiple times within a short period of time, then the athlete post with the most number of comments was selected. Data collection continued until there were 25 unique female athletes and 25 unique male athletes included in the data set.

Study Design: Content Analysis & Linguistic Inquiry and Word Count (LIWC)

Variables Reviewed

- **Engagement statistics**: number of likes and number of comments per post
- **Top 5 user comments** with the **most number of "likes"** among the first 10 posted
- **Content Analysis of Top 5 User Comments** (code book descriptions)

Positive	Negative	Neutral	Sexual	Not Related
Says something positive about the athelte or their sport.	Says something negative about the athlete or their sport. This includes being dismissive about the athlete by saying "Nobody cares" or "Who?"	Related to the post but not necessarily negative or positive. If it's ambigous whether it's postive or negative, error on calling it neutral. If a post is positive about another athlete, without a negative reference to the main subject athlete, then code it as neutral. On the other hand, if a post is positive about another athlete with a negative reference to the main subject athlete, then code as negative.	Says something sexual about the athlete and/or mentions body/appearence of athlete.	A comment about another sport or another event going on. A comment that seems completely not related to the post.

- **For LIWC analysis,** User Comments were analyzed for **negative emotion/positive emotion**

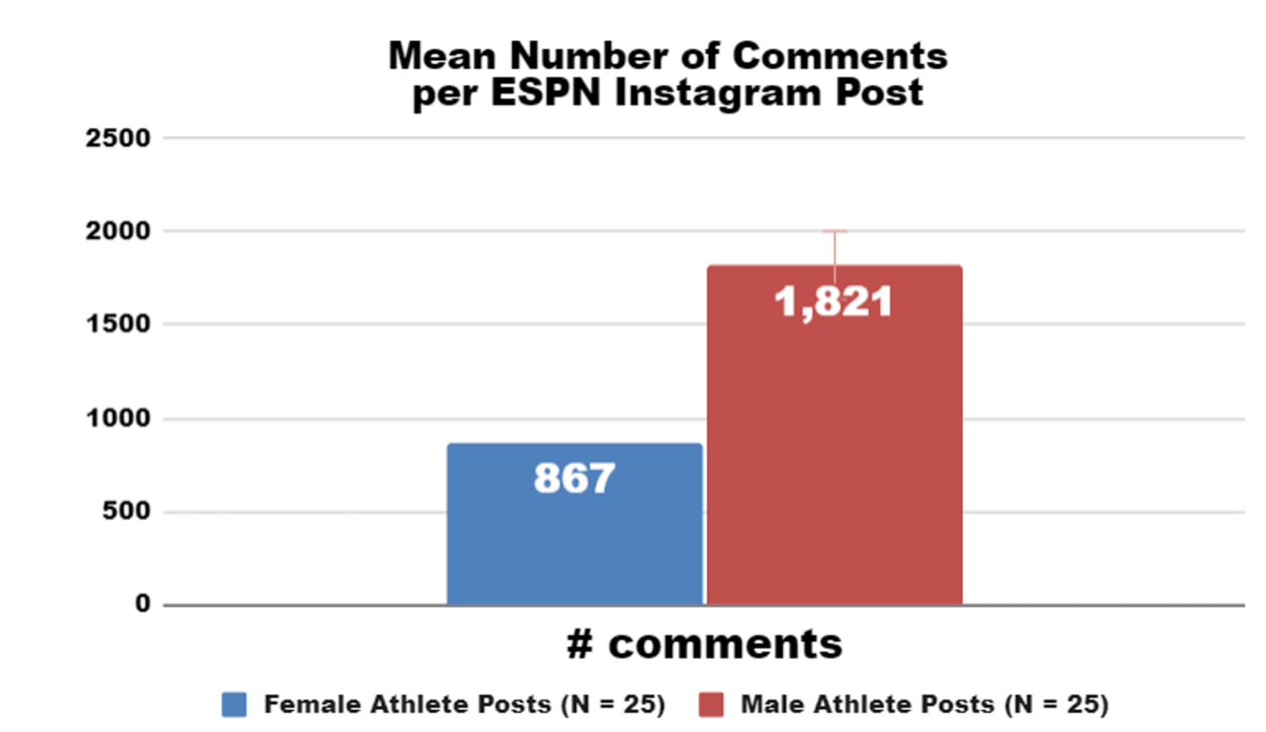
Statistical Analysis

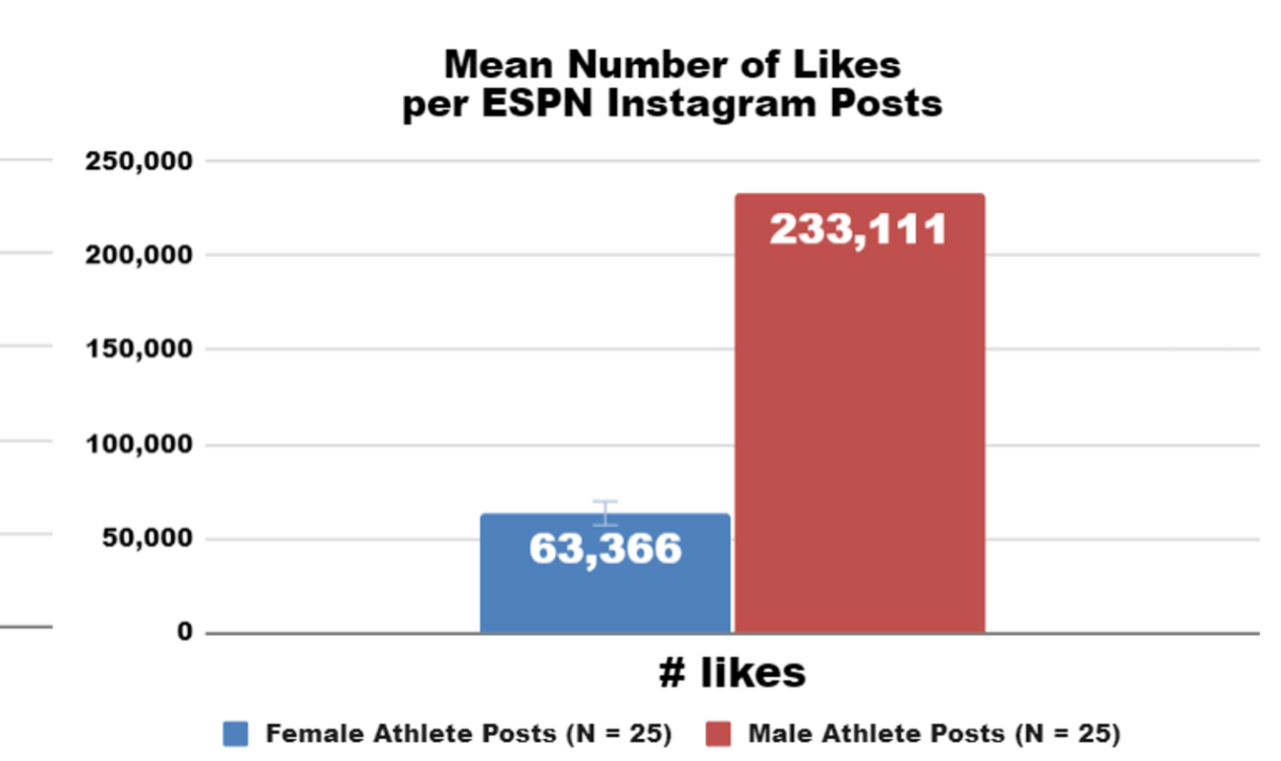
- **T-test**
  - Comparison of user **engagement statistics (# likes):** female vs male athlete posts
  - Comparison of user **engagement statistics (# total comments)**: female vs male athlete posts
  - Comparison of **LIWC negative emotion vs positive emotion** score for **female** athletes
  - Comparison of **LIWC negative emotion vs positive emotion** score for **male** athletes
  - Comparison of **LIWC negative emotion** score: female vs male athlete user comments
  - Comparison of **LIWC positive emotion** score: female vs male athlete user comments
- **Chi Square test**
  - Comparison of percent **positive user comments**: female vs male athlete posts
  - Comparison of percent **negative user comments**: female vs male athlete posts
  - Comparison of percent **sexual/physical user comments**: female vs male athlete posts
  - Comparison of percent **neutral user comments**: female vs male athlete posts
  - Comparison of percent **unrelated user comments**: female vs male athlete posts

RESULTS

Number of Comments and Likes for ESPN Instagram Posts about Athletes

	Female (N = 25)		Male (N = 25)		p-value
	Mean	Range	Mean	Range	
# Comments	867	44 - 5,926	1,821	78 - 15,400	p = 0.177
# Likes	63,366	5,939 - 585,264	233,111	8,842 - 742,182	**p = 0.001**





Content Analysis of ESPN Instagram User Comments about Athletes

	Posts of Female Athletes (N = 125)	Posts of Male Athlete (N = 125)	p-value
Positive comments	36.8%	52.0%	**p = 0.016**
Negative comments	33.6%	14.4%	**p < 0.001**
Neutral comments	11.2%	31.2%	**p < 0.001**
Sexual comments	5.6%	0.8%	**p = 0.031**
Unrelated comments	12.8%	1.6%	**p < 0.001**

Example of **Sexual** comment for Female Athlete Post:

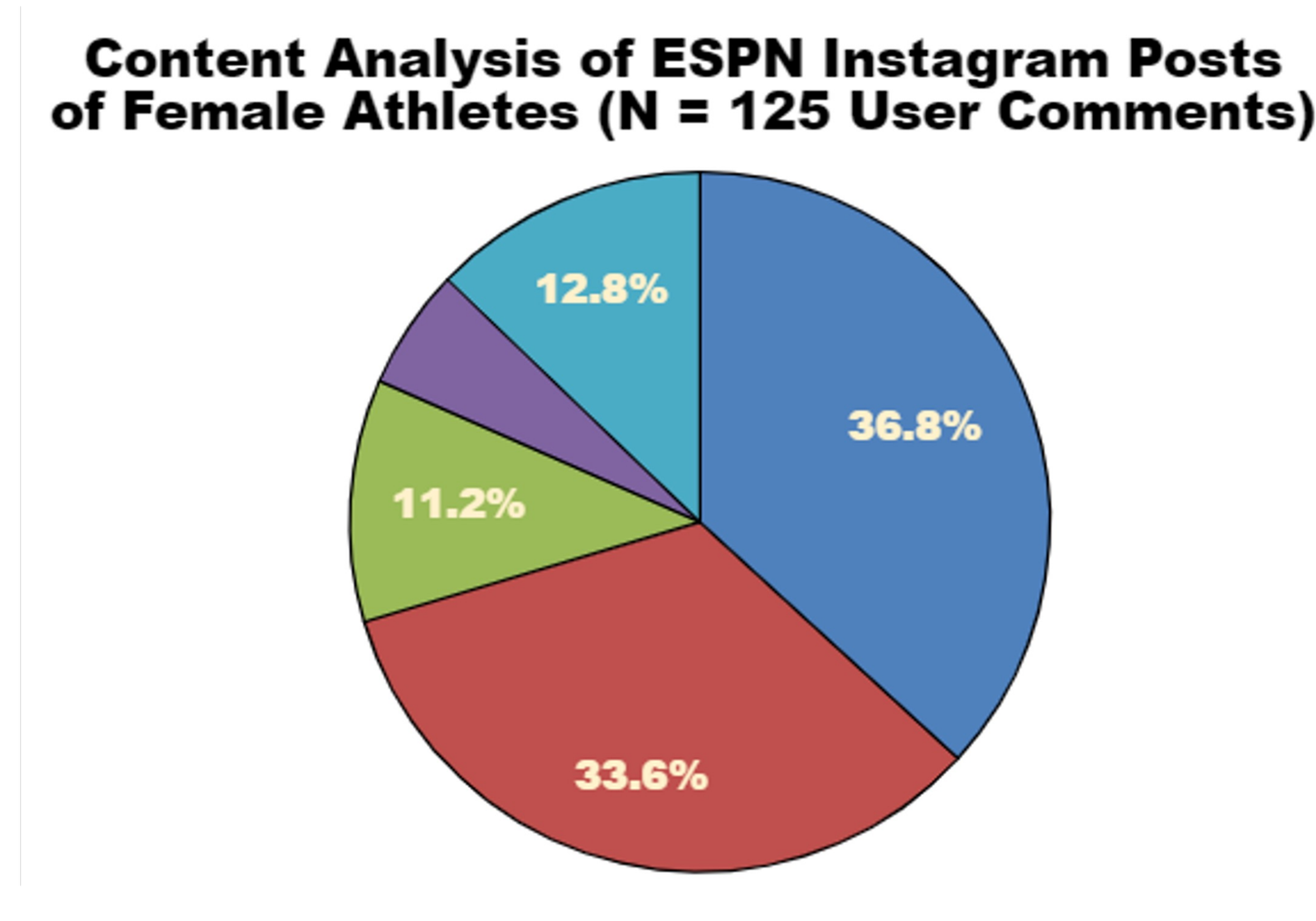
[redacted] Gotta keep using this camera angle for the female fights 📸 (the angle is up the athlete's skirt)

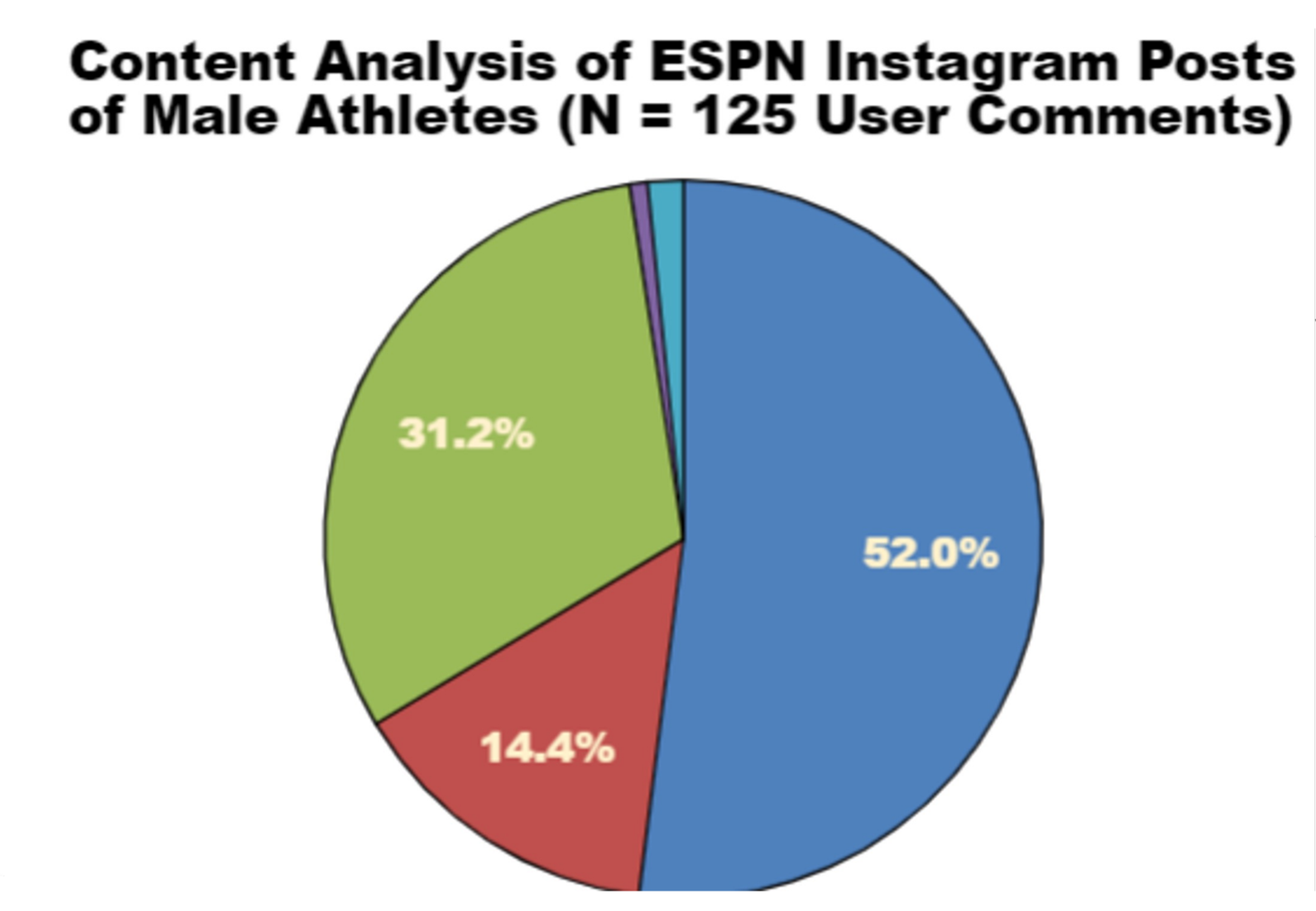
6w 351 likes Reply

Example of **Unrelated** comment for Female Athlete Post:

[redacted] Do they not realize the finals are on rn

5w 40 likes Reply





Positive comments · Negative comments · Neutral comments · Sexual comments · Unrelated comments

Example of **Sexual** comment for Male Athlete Post:

[redacted] Obv it's the beard 🤷 🤣

5w 12 likes Reply (explaining why the athlete is so good)

Example of **Unrelated** comment for Male Athlete Post:

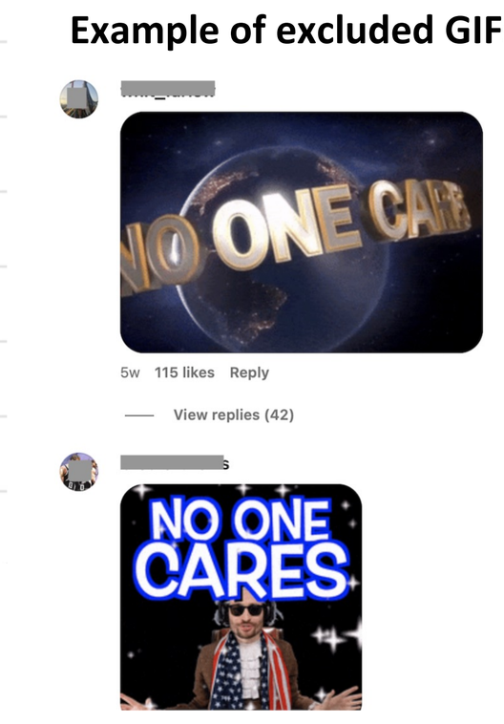
[redacted] I got a hole in one in wii golf twice

6w 481 likes Reply

Example of **Negative** Comments for Posts of Female Athletes

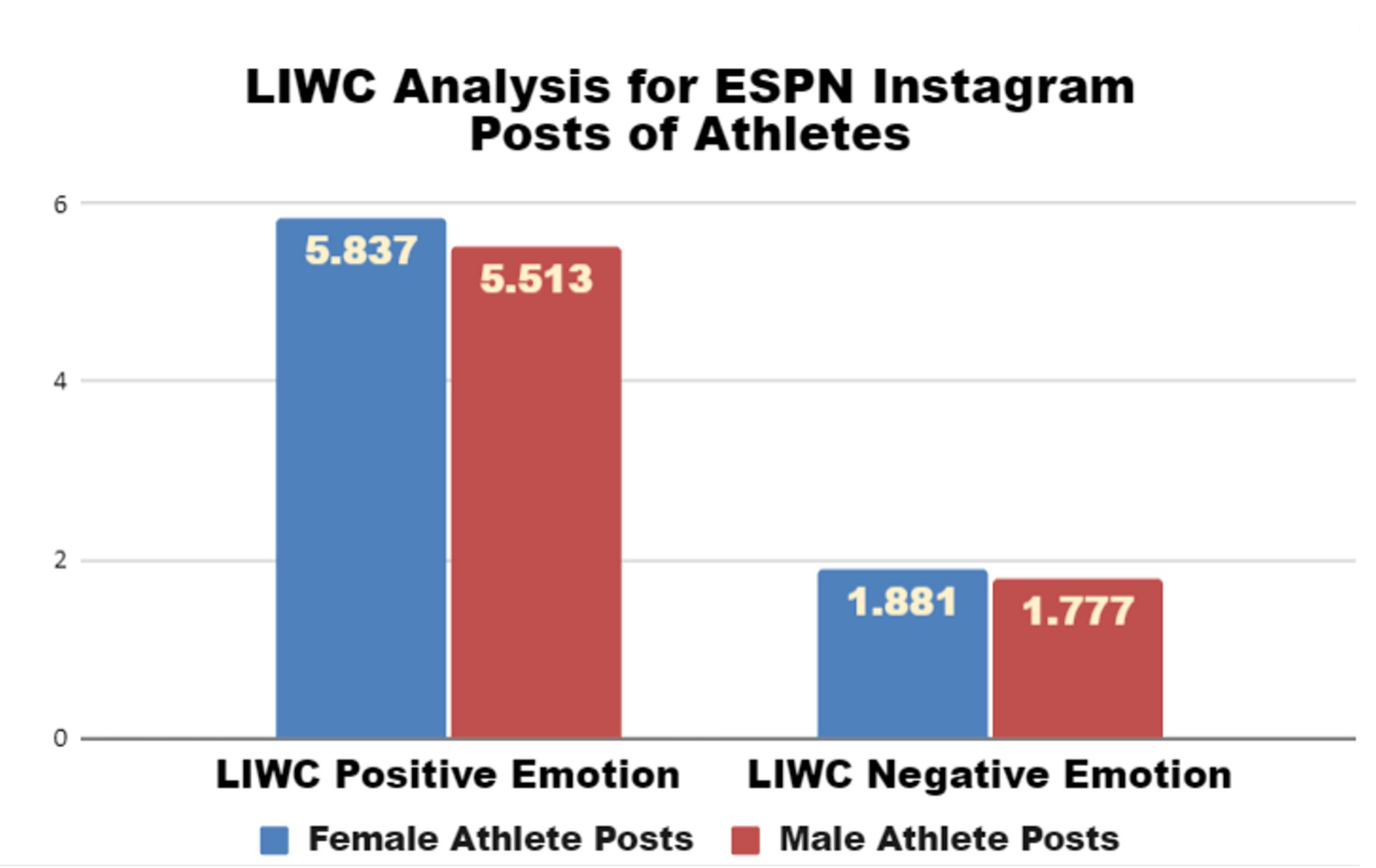
Her jumper lowkey use to be me in the 1st grade
If i wanted to see wnba i would follow them.... 😒
I've scored 150 double figure games at my local YMCA where Is my post?
I wonder if lsu women's team could beat a good high school boys team???
US women's soccer couldn't but I'm actually curious
Nobody cares lol
I'd rather listen to the NBA on the radio than watch a WNBA game live, front row.
who? we don't care

Example of excluded GIFs



Example of **Negative** Comments for Posts of Male Athletes

What did bro do to deserve this post? 😹😹
Didn't play a single minute
Bro scored 1 goal in his last 9 games. Disappeared when his team needed him the most.
It wasn't that good of a dunk 💀💀💀
KDB, Bernardo Silva are the real heroes.
that dunk was kinda mid
It's wasn't clutch, there was a lot more game left. Lol
Bros talking like Jokic wouldn't give him 70 💀



Linguistin Inquiry and Word Count (LIWC)

LIWC Category	Female Posts	Male Posts	p-value for Welch t-test, positive emotions / negative emotions, M vs F
Positive Emotion	M = 5.837	M = 5.513	p = 0.787
Negative Emotion	M = 1.881	M = 1.777	p = 0.870
p-value for paired samples t-test M and F, positive emotion vs negative emotion	**p < 0.001**	**p < 0.001**	

CONCLUSIONS

- **Despite all ESPN Instagram posts of athletes** being **positive and supportive**, **user engagement and comments** were **more negative** towards **female athletes.**
- Moreover, the **negative bias towards female athletes** may be **undercounted** since many comments coded **"unrelated"** were of a dismissive nature towards women sports.
- **Adolescents exposed to even positive media coverage of female athletes** may **suffer negative consequences (**e.g. lower self-esteem, lower participation rates) if a **"backlash" of negative comments** are solicited from users. As such, these **user comments** deserve **monitoring** by companies who post comments and should be further **studied** by researchers.
- While **content analysis** was able to **document gender disparity** in the nature of user comments, **LIWC** (a commonly used statistical approach) **did not capture** this difference.
- **Study limitations** include the limited time frame of the study; posts reflected the seasonal nature of sports. In addition, many gifs were present but excluded. Finally, some comments required context knowledge to be able to understand intent.

FUTURE STUDIES

- Future studies should include memes and gifs since they are very prevalent. In addition, studies should either include all sports seasons or limit themselves to a single sport for analysis.
- Future studies should also focus on the limitations of LIWC analysis and when context of comments may fail to identify the intent of words.

ACKNOWLEDGMENTS

- I would like to thank Matt Minich for his guidance in all aspects of this research project.
- I would like to thank the other scholars this year who provided me feedback. I also learned a lot from them through the course of the program.
- I would like to thank all the SMAHRT team leaders for providing us with this unique research opportunity.
- I would like to thank Dr. Megan Moreno for understanding the importance of studying the impact of social media on adolescents.

ACKNOWLEDGMENTS

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