



RESEARCH PAPER

Relationship between Physical Activity and Facebook Addiction among Athletes and Non-athletes of University Level Early Adults

Muaaz Zafar Iqbal¹ Dr. Asif Ali^{*2}

1. M. Sc. Student, Department of Physical Education & Sports Sciences, Government College University Lahore, Punjab, Pakistan
2. Associate Professor, Department of Physical Education & Sports Sciences Government College University Lahore, Punjab, Pakistan

***Corresponding Author:** asif.ali@gcu.edu.pk

ABSTRACT

This study compared athletes and non-athletes to evaluate the association between physical exercise and Facebook addiction among university-level participants. A total of 150 athletes and 150 non-athletes, encompassing a diverse gender distribution (Approximately 25-30% female and 70% male participants), were incorporated into the process of gathering data. Social media usage and physical activity have unique benefits for these populations because of disparities in academic performance, psychological well-being, and social relationships. Athletes engaged in significantly more physical activity than non-athletes, demonstrating significant variations in salience factor and conflict factors. They also displayed significantly different conflict factors compared to non-athletes, indicating a significant difference in physical activity level. These findings suggest that among university-level young adults, both athletes and non-athletes exhibit comparable intensity of fitness regimen and Facebook addiction. The undertaken investigation contributes broaden our perspective on the intricate linkage of physical activity, social media usage among university students, highlighting the importance of further research in this domain.

KEYWORDS

Facebook Addiction, Non-Athletes, Physical Activity, Social Media Usage, Addictive Behaviors, University-Level Athletes, Well-Being, Young Adults

Introduction

An activity that involves the movement of the body's skeletal muscles is considered to be a physical activity which require body effort, is known to have significant positive effects on physical fitness, overall well-being, and psychological health (Caspersen et al. 1985). Engaging in regular numerous benefits have been associated with physical activity, including elevated cardiovascular wellness, enhanced mood, reduced stress levels, and better cognitive functioning (Kuss and Griffiths 2017). Conversely, the excessive use of social media platforms, particularly Facebook, has raised concerns about addictive behaviors and their impact on individuals' mental health and well-being.

Facebook addiction, characterized by compulsive and excessive use of the platform, preoccupation with social media activities, and negative consequences in various life domains, has gained significant attention in psychological research (Andreassen 2015). University-level early adults, a specific subgroup within the young adult population, are particularly vulnerable to the addictive nature of social media due to academic pressures, social stressors, and the desire for online social validation(Muzaffar, et al. 2020; Muzaffar, et al. 2019; Liu et al. 2019).

In contrast to non-athletes, athletes who engage in organized physical activities as part of their athletic endeavors may experience different influences on their use of social

media and addictive behaviors in this study, which compares athletes and non-athletes and focuses on the differences between the two groups. We can learn a lot about how physical activity levels interact with Facebook usage patterns and the emergence of addictive tendencies by examining these two separate groups.

There are three main goals for this study. It first seeks to look into how common Facebook addiction is among university students, both athletes and non-athletes. Knowing how prevalent Facebook addiction is in these two categories will help us better understand the problem's scale and the potential effects it may have on young adults in college. Secondly, the research also suggests that physical interaction may help reduce Facebook addiction. By analyzing the association between regular physical activity and the risk of addiction, it is feasible to identify whether regular physical activity acts as a protective or risk factor for Facebook addiction. Lastly, the study aims to identify any consequential differences in the consequences of Facebook addiction amidst athletes and non-athletes. By comparing the consequences, such as academic performance, psychological well-being, and social relationships, we can identify any unique challenges or benefits associated with the relationship between physical activity and social media usage in these populations.

Furthermore, this study addresses the existing literature gap the influence of physical activity on Facebook addiction among university-level early adults. Few studies have specifically examined the function of physical exercise in this context, while previous research has investigated the influence of social media addiction and demographic characteristics like age and gender. By filling this gap in the literature, its aims to elucidate how physical activity and social media usage interact within this specific population.

Literature Review

The relationship between physical activity and Facebook addiction has become a topic of increasing interest, particularly among university-level early adults. By acknowledging the potential interaction of both of these components, it is possible to gain a better understanding of how addictive behaviors arise and are managed in today's digital world.

Prior studies have looked at how physical activity affects several aspects of people's well-being, such as mental health, cognitive performance, and addictive behaviors (Craft 2004; Penedo and Dahn 2005). Physical activity has regularly been linked to favorable results, including lowered stress levels, improved mood, and increased self-esteem. Additionally, involving oneself in periodic exercise repeated exercise has been associated with a lower incidence of developing addictive behaviors, including substance abuse and other forms of behavioral addiction (Gülü et al. 2023).

Social media use, particularly Facebook, concerns have emerged regarding its addictive nature and potential negative consequences on individuals' psychological well-being. Facebook addiction has been defined as an excessive and compulsive engagement with the platform, leading to adverse effects on social relationships, academic performance, and overall functioning (Andreassen et al. 2012a). Given the widespread popularity of Facebook among university-level early adults, it is crucial to explore the connection between physical activity and Facebook addiction within this specific population.

The current study aimed to investigate this relationship among university-level athletes and non-athletes. The findings indicated that there were substantial discrepancies physical activity levels within the athlete and non-athlete cohorts. Results agree with

previous research that has reported high physical activity levels among these two groups (Cuppert and Latin 2002).

Furthermore, the study found no significant differences in Facebook addiction tendencies between athletes and non-athletes but the 1st Salience and last conflict found high significant differences in athletes than non-athletes.

Salience describes how prominent or significant Facebook is in a person's life. The BFAS salience item measures how much a person thinks about Facebook, feels the impulse to use it, or views Facebook as an important part of their daily routine. High scores on this question show that Facebook is very present in the respondent's thoughts and activities.

Conflict is used to describe the negative impacts or disputes that result from a person's use of Facebook. This BFAS item gauges the extent to which a person's excessive Facebook use causes conflicts or issues in their interpersonal relationships, professional or academic obligations, or other facets of their lives. High scores on this test question suggest more conflict related to Facebook use.

This outcome is in agreement with earlier findings that have consistently reported no relationship, between athletic involvement and social media addiction (Andreassen et al. 2012b).

have provided additional evidence in line with these findings, Although athletes devote a great deal of their time and energy to their training and competitions to their athletic pursuits, it does not appear to have a direct impact on their likelihood of developing addictive behaviors related to Facebook use.

The outcomes of this study have important ramifications for understanding how young adults who attend universities have complex relationships between social media addiction and physical activity. While physical activity is widely recognized for its numerous health benefits, it may not be a determining factor in mitigating Facebook addiction tendencies within this population. Other individual and environmental factors, such as personality traits, social support, and online social interaction, may be influential in the genesis and persistence of Facebook addiction among university-level learners (Kuss and Griffiths 2017; Marino et al. 2018).

In summary, this study sheds light on the connection amidst physical activity and Facebook addiction among university-level athletes and non-athletes. The results suggest that physical activity levels and athletic involvement alone may not significantly influence the likelihood of developing Facebook addiction among university-level early adults. It will take more investigation to clarify other variables that may play a role in the emergence and control of addictive behaviors in the setting of social media use.

Material and Methods

Sampling Structure

There was a comparative study design employed in this study relationship analysis between physical activity and Facebook addiction among university-level athletes and non-athletes in this study. Data were collected from multiple universities across Pakistan, ensuring a diverse sample for analysis.

Population and sample size:

Participants were recruited from 7 universities, representing different regions of the country. The sample consisted of university-level athletes and non-athletes, selected through a purposive sampling technique. The inclusion criteria for athletes were being actively involved in university-level sports, while non-athletes included students not participating in any organized sports activities.

Sample Allocation

In order to allocate the sample of Athletes and Non-Athletes, we used stratified random sampling. There are several universities in Lahore which we stratify our sample by (Govt. College University, Punjab University, University of Education, University of Central Punjab, University of Lahore, King Edward Medical College, Sheikh Zaid Medical College) and we then randomly select participants from each stratum to participate.

Instruments

The research utilized a self-report survey questionnaire to gather data from the participants. The survey instrument consisted of two sections: physical activity levels and Facebook addiction.

All participants of the research were given questionnaire which was consisting of gender, age, study program, marital status, and participation in physical activity or sports.

International Physical Activity Questionnaire was used in the study's early phase to gauge the participants' levels of physical activity (Craig et al. 2003) measuring the duration and intensity of a range of physiological activities that participants do physically.

The second section of the survey focused on Facebook addiction and Based on Bergen's Scale of Facebook addiction (Andreassen et al. 2012b). It is a validated instrument specifically designed to assess addictive behaviors related to Facebook usage. Participants rated their agreement with a series of statements related to Facebook addiction symptoms on liker t scale.

Data Collection

Ethical considerations were addressed during the entire research endeavor. Volunteers were furnished with informed consent documents that delineated the study's objectives, ensured the privacy of their responses, and affirmed their prerogative to revoke from the research any time. Approval for the study was also obtained from the pertinent institutional review board to ensure adherence to ethical guidelines.

The methodology employed in this research allowed for a comprehensive comparison between university-level athletes and non-athletes regarding their physical activity levels and Facebook addiction. The inclusion of multiple universities of Pakistan enhances the generalization of the findings to a wider population of university students in the country.

Data Analysis

Data were collected anonymously to ensure confidentiality. To conduct analytical analysis, the mean scores of physical activity levels and Facebook addiction were compared between athletes and non-athletes using the t-test. Standardized mean difference effect size was computed to ascertain the amplitude of observed differences

Result and Discussion

A comparison was conducted between university-level athletes and non-athletes to look at the relationship between physical activity and Facebook addiction. The results revealed the following:

Sports participants engaged in significantly more physical activity than non-participants ($M = 1.42$, $SD = 0.70$; $M = 2.53$, $SD = 0.66$) did. Cohen's $d = 1.63$, Cohen's $t(300) = 14.09$, and $p .001$.

Table 1
Analysis of Physical activity and Facebook addiction among University Level Athletes and Non-Athletes

Variables	Athletes		Non- Athletes		$t(300)$	p	Cohen's d
	M	SD	M	SD			
Physical Activity	2.53	0.66	1.42	0.70	14.09	.00	1.63
Saliency	0.48	0.50	0.35	0.48	2.24	.026	0.27
Tolerance	0.48	0.50	0.44	0.50	-0.35	.73	.08
Mood Modification	0.40	0.49	0.46	0.50	-1.05	.30	0.12
Relapse	0.48	0.50	0.48	0.50	0.00	1.00	0.
Withdrawal	0.43	0.50	0.33	0.47	1.79	.08	0.21
Conflict	0.54	0.50	0.39	0.49	2.57	.01	.30
BFAS Categories	.35	.48	.31	.46	.61	.54	.09

In comparison to non-athletes ($M = 0.35$, $SD = 0.48$), athletes reported slightly greater saliency levels ($M = 0.48$, $SD = 0.50$). $p = 0.026$, Cohen's $d = 0.27$, and $t(300) = 2.24$.

Between athletes ($M = 0.48$, $SD = 0.50$) and non-athletes ($M = 0.44$, $SD = 0.50$), there was no discernible difference in tolerance. Cohen's d is 0.08 and Cohen's $t(300)$ is -0.35.

The poll results showed no discernible difference. mood swings in athletes ($M = 0.40$, $SD = 0.49$) compared to non-athletes ($M = 0.46$, $SD = 0.51$). $p = 0.30$, Cohen's $d = 0.12$, and $t(300) = -1.05$.

According to the data, there was no statistically significant difference in the rate of relapse between athletes and non-athletes ($M = 0.48$, $SD = 0.50$). $p = 1.00$, Cohen's $d = 0$, and $t(300) = 0.00$.

There was no discernible difference in withdrawal symptoms, but athletes reported slightly greater levels than non-athletes ($M = 0.33$, $SD = 0.47$ vs. 0.43 , 0.50 , respectively). $p = 0.08$, Cohen's $d = 0.21$, and $t(300) = 1.79$.

Compared to non-athletes ($M = 0.39$, $SD = 0.49$), athletes reported significantly higher degrees of conflict participation ($M = 0.54$, $SD = 0.50$). Cohen's d is .30, Cohen's $t(300)$ is 2.57, and p is .01.

Data between athletes and non-athletes ($M = 0.3$, $SD = 0.48$) and across BFAS categories, including specific addictive behaviors, did not reveal any statistically significant differences. Cohen's d is equal to 0.09, $t(300) = 0.61$, and $p = 0.54$.

Discussion

According to the study's findings, collegiate athletes and non-athletes differ significantly in terms of their levels of physical activity and particular facets of Facebook addiction. Athletes showed noticeably greater levels of physical activity than non-athletes, which is consistent with earlier studies showing the beneficial effects of athletic involvement on general physical activity engagement (Johnson 2020; Smith 2018). Regarding Facebook addiction components, the analysis indicated that athletes reported higher levels of Salience compared to non-athletes. Salience refers to the perceived importance and preoccupation with Facebook in one's daily life (Bergan 2012). This finding suggests that athletes may consider Facebook to be more central and influential in their routines and daily activities, potentially indicating a greater reliance on the platform for various social, informational, or motivational purposes.

Additionally, athletes exhibited significantly higher levels of involvement in Conflict related to Facebook use compared to non-athletes. Conflict represents Facebook's addiction created conflicts between job and studies due to distractions and reduced productivity, negatively affecting my performance in both areas (Bergan 2012). This finding implies that athletes may encounter more conflicts or face difficulties in managing their job and studies, possibly due to the increased visibility and social connections associated with their athletic involvement.

According to past studies showing the positive benefits of athletic involvement on general physical activity engagement (Johnson 2020; Smith 2018), athletes demonstrated considerably higher levels of physical activity than non-athletes. These results suggest that being an athlete or non-athlete does not directly influence the likelihood of developing addictive behaviors related to Facebook use in these specific domains.

These findings enrich the current body of literature by emphasizing the intricate interplay among physical activity, Facebook addiction, and participation in athletics. The higher physical activity levels observed among athletes align with previous studies demonstrating the positive impact of sports participation on overall physical activity engagement (Johnson 2020; Smith 2018). The higher levels of Salience and Conflict reported by athletes shed light on the specific challenges they may face in managing their Facebook use, potentially due to their increased social visibility and commitments in both athletic and online contexts.

It is crucial to consider the study's limitations, such as the use of self-reported measures that can be impacted by recall bias and social desirability effects, when interpreting these results. Further, no other social media sites or addictive behaviors were examined in the investigation, which was solely concerned with Facebook addiction. Future studies could adopt objective measures of physical activity, employ longitudinal designs to track changes over time, and explore a wider range of social media platforms. In this way, the connection between physical activity, social media addiction, and involvement in sports can be better understood.

University level athletes exercise more than non-athletes. Athletes also displayed higher salience and conflict levels when using Facebook. The necessity of taking into account the unique challenges that athletes have in regulating their social media

involvement is shown by these results. With the aim of fostering healthy digital habits and general well-being among college students, interventions could be developed to address the particular difficulties associated with Facebook addiction in sporty populations. The intricate interactions between physical activity, social media addiction, and participation in sports must be further investigated in order to have an impact on the development of tailored therapies and policies.

Conclusion

Athletes at the collegiate level engaged in much more physical activity than non-athletes, according to the study's findings. Additionally, athletes reported increased Salience and Conflict levels in regard to Facebook addiction. Athletes and non-athletes did not exhibit any appreciable differences in other aspects of Facebook addiction or in general addictive behaviors.

These results imply that participation in athletics may increase physical activity levels among college students. Athletes might also attribute a greater significance to Facebook in their daily lives and engage in more interpersonal confrontations through social media.

It is vital to be aware of the study's limitations, which include the use of self-reported metrics and the necessity for additional research to look into additional aspects that can contribute to Facebook addiction. However, the differences between athletes and non-athletes are well highlighted by this study, as is the link between exercise, Facebook addiction, and these differences. These findings provide light on the intricate relationships between young adults' engagement in physical activity and social media use.

References

- Andreassen CS. (2015). Online social network site addiction: A comprehensive review. *Current addiction reports*. 2(2), 175-184.
- Andreassen CS, Torsheim T, Brunborg GS, Pallesen S. (2012a). Development of a Facebook addiction scale. *Psychological reports*. 110(2), 501-517.
- Andreassen CS, Torsheim T, Brunborg GS, Pallesen SJPr. (2012b). *Development of a Facebook addiction scale*. National Institute of Health
- Bergan DE, Bergan, J. G., Scott, C., & Velasquez, A. 2012. Facebook addiction among college students: An exploratory study, *Proceedings of the Academy for Studies in International Business Conference*
- Caspersen CJ, Powell KE, Christenson GM. (1985). Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. *Public health reports*. 100(2), 126.
- Craft LL, & Perner, E. W. (2004). Psychosocial stress and exercise. *Clinical Journal of Sports Medicine*, 14(2), 82-88.
- Craig CL, Marshall AL, Sjöström M, Bauman AE, Booth ML, Ainsworth BE, Pratt M, Ekelund U, Yngve A, Sallis JF. 2003. International physical activity questionnaire: 12-country reliability and validity. *Medicine & science in sports & exercise*. 35(8), 1381-1395.
- Cuppett M, Latin (2002). A survey of physical activity levels of certified athletic trainers. *RWJJoAT*, 37(3) 281
- Gülü M, Yagin FH, Gocer I, Yapici H, Ayyildiz E, Clemente FM, Ardigò LP, Zadeh AK, Prieto-González P, Nobari (2023). Exploring obesity, physical activity, and digital game addiction levels among adolescents: A study on machine learning-based prediction of digital game addiction, *HJFiP*, 14, 1097145
- Johnson RB, Mair, M., & Neill, J. T. (2020). College athletes' perceived barriers to physical activity: A qualitative study. *Journal of Intercollegiate Sport*, 13(2), 170-191.
- Kuss DJ, Griffiths MD. (2017). Social networking sites and addiction: Ten lessons learned. *International journal of environmental research and public health*. 14(3), 311.
- Liu L-S, Wu Z, Wang J, Wang W, Bao Y, Cai J, Chen L, Chen W, Chu S, Feng. (2019). Chinese guidelines for prevention and treatment of hypertension-A report of the revision committee of Chinese guidelines for prevention and treatment of hypertension. *YJJoGC* 16(3), 182-245.
- Marino C, Gini G, Vieno A, Spada MM. (2018). The associations between problematic Facebook use, psychological distress and well-being among adolescents and young adults: A systematic review and meta-analysis. *Journal of affective disorders*. 226, 274-281.
- Muzaffar, M., Chohdhry, S., & Afzal, N. (2019). Social Media and Political Awareness in Pakistan: A Case Study of Youth, *Pakistan Social Sciences Review*, 3 (II), 1-13
- Muzaffar, M., Yaseen. Z., Safdar, S. (2020). Role of Social Media in Political Campaigns in Pakistan: A Case of Study of 2018 Elections, *Journal of Political Studies*, 27 (2), 141-151

- Penedo FJ, Dahn JR. (2005). Exercise and well-being: a review of mental and physical health benefits associated with physical activity. *Current opinion in psychiatry*. 18(2), 189-193.
- Smith AL, Gatin, P. B., & Fang, F. Y. . 2018. Factors associated with athletes' engagement in their university's athlete development program. *Journal of College Student Development*, 59(5), 605-620.