



**RESEARCH PAPER**

**Relationship between Physical Activity and WhatsApp Addiction among Athletes and Non Athletes of University Level Early Adults**

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**ABSTRACT**

This university-level study examined into the connection between physical activity and WhatsApp addiction in young individuals. 100 university student-athletes and 100 university student-non-athletes from three universities participated in a cross-sectional survey. Data was collected using the demographic factors, Bergen's Social Media Addiction Scale, and short version of (Ipaq) International Physical Activity Questionnaire. Mean WhatsApp addiction score for non-athletes was substantially greater than that of their peers who were athletes, according to an examination of independent samples T-test results. The findings suggested that physical activity can aid in reducing university students' addiction to WhatsApp. It is also likely to imply that interventions aimed at promoting physical activity may work as a deterrent to addictive social media behavior in young adults enrolled in universities, such as WhatsApp addiction.

**KEYWORDS** Athletes, Early Adults, Non-Athletes, Physical Activity, Social Media, University Students, Whatsapp Addiction

**Introduction**

The rapid evolution of digital technology and the widespread adoption of smartphones have transformed the way individuals communicate and interact with each other. Among the various social media platforms, WhatsApp has emerged as one of the most popular and widely used instant messaging applications globally. Its ease of use, multimedia sharing capabilities, and ability to connect people in real-time have made it an integral part of modern communication, particularly among young adults (Muzaffar, Chohdhry, & Afzal, 2019; Muzaffar, Yaseen & Safdar, 2020; Ryani, Alshahrani, Khmees, & Gosadi, 2023). However, along with its benefits, concerns have been raised about the potential addictive nature of WhatsApp which leads to stress, anxiety and depression its impact on the well-being of university-level early adults.

Addictive behaviors, such as compulsive use of technology, are becoming a growing concern in contemporary society. Individuals may develop a problematic relationship with technology, leading to excessive use and an inability to control their online behaviors (Andreassen, Torsheim, Brunborg, & Pallesen, 2012). WhatsApp addiction, characterized by preoccupation with the application, loss of control, and negative consequences due to excessive use, has been associated with various psychological and social impairments (Elhai, Dvorak, Levine, & Hall, 2017). The prevalence of WhatsApp addiction has been rising steadily, particularly among young adults who heavily rely on smartphones and social media platforms to fulfill their communication needs (Kuss & Griffiths, 2017).

Because of its possible effects on mental health and well-being, Whatsapp addiction has attracted attention in recent years. Several studies have investigated the prevalence of technology addiction, including WhatsApp, among young adults. For instance, a study by Andreassen, Pallesen, and Griffiths (2017) found that 23% of college students met the criteria for problematic mobile phone use, indicating a significant portion of young adults

might experience addiction-like symptoms concerning their smartphones and related applications like WhatsApp.

Understanding the underlying factors that contribute to WhatsApp addiction is crucial for devising effective prevention and intervention strategies. Several factors have been proposed to influence technology addiction, including social reinforcement, emotional regulation, and cognitive gratification (Elhai et al., 2017). The instant gratification provided by WhatsApp's real-time communication features, coupled with the need for social connectedness, may drive individuals to develop addictive behaviors (Bano, Cisheng, Khan, & Khan, 2019). Additionally, personality traits, such as impulsivity and neuroticism, have been linked to increased vulnerability to technology addiction as well as its negative use effected academic performance (Ebrahimpour et al., 2016).

Excessive WhatsApp use and addiction have been associated with various negative consequences, both psychological and social. Users may experience heightened levels of anxiety, depression, and loneliness, as excessive technology use can interfere with face-to-face social interactions (Zhang et al., 2022). Academic performance may also be affected as WhatsApp addiction can lead to reduced focus and increased distraction during study hours (Sun & Zhang, 2021). Moreover, excessive WhatsApp use with the help of smartphone during bed hours may contribute to sleep disturbances, further exacerbating the negative effects on overall well-being (Demirci, Akgönül, & Akpınar, 2015).

The existing literature on technology addiction predominantly focuses on smartphone addiction in general or social media addiction, with a limited focus on specific applications like WhatsApp. WhatsApp is unique in its functionality as an instant messaging app and its widespread use for both personal and professional communication. Therefore, investigating WhatsApp addiction as a distinct phenomenon can provide valuable insights into the potential addictive nature of this particular platform and its implications for young adults' well-being.

Additionally, the comparison between athletes and non-athletes in the context of WhatsApp addiction remains largely unexplored. Athletes, given their involvement in sports and physical training, may exhibit different technology use behaviors and physical activity patterns compared to their non-athlete peers. Investigating potential differences in WhatsApp addiction levels between these two groups can offer a nuanced understanding of how physical activity may influence technology use and addiction tendencies among university-level early adults.

Furthermore, while there is a considerable body of research on the negative consequences of technology addiction, including social and psychological impairments, limited research has examined the potential moderating role of physical activity in mitigating the adverse effects of WhatsApp addiction. Targeted interventions aiming at encouraging healthier technology use and well-being among young individuals can be informed by knowing whether physical activity levels can operate as a protective factor against the unfavorable effects of WhatsApp addiction.

It is commonly recognized that exercise is essential for preserving general health and wellbeing. Regular physical activity has been linked to several medical, psychological, and social advantages, including better cardiovascular health, lowered stress levels, increased mood, and improved cognitive performance (Penedo & Dahn, 2005; Warburton, Nicol, & Bredin, 2006). Any movement needs the use of skeletal muscles and energy spending is referred to as physical activity. It includes a wide range of activities, including less structured ones like walking, housework, and gardening as well as more structured ones like running, cycling, and swimming. Reliable physical activity tracking has become essential for studies on how university students use Whatsapp and how often they exercise.

In addition to inaccurate self-reporting, a variety of methods can be employed to measure physical activity levels, including personal observation or advanced technology.

A common tool for assessing the levels of physical activity in athletes and non-athletes is the International Physical Activity Questionnaire (IPAQ). It makes it easier for researchers to learn about a subject's participation in various physical activities. Walking, moderate-intensity activities, and vigorous-intensity activities are the three main categories for physical activity in the IPAQ Short Form, a condensed form of the questionnaire. Simple exercises like walking can be included into daily routines. All walking-related activities are covered by the IPAQ Short Form, including walking for transportation, walking at work (like getting around the office), and walking for fun, fitness, or leisure. Walking is considered a medium-intensity exercise that increases overall levels of physical activity. Activities of moderate intensity result in a little rise in respiration and heart rate, which raises energy expenditure. Some examples of moderate-intensity activities include steady-state cycling, leisurely swimming, doubles tennis, gardening, and performing physically demanding household chores. By participating in these activities, which are also beneficial to one's health, people can keep up with or improve their level of physical fitness. Actively vigorous activities: Activities of a robust intensity are those that significantly raise the heart rate and breathing compared to activities of a moderate intensity. Exercise that is intensely performed improves overall physical health and cardiovascular fitness. High-intensity sports and fitness sessions include things like running, cycling swiftly or uphill, swimming quickly across the pool, playing singles tennis, and other strenuous exercises. The IPAQ Short Form typically asks respondents to describe their participation in moderate-intensity activities, vigorous-intensity activities, and walking in terms of frequency (number of days per week) and length (minutes per day). Researchers can identify a person's overall level of physical activity and divide them into different activity categories (such low, moderate, or high) using the information they collect.

Whatsapp addiction refers to a phenomenon where individuals develop an excessive and uncontrollable preoccupation with using the Whatsapp social media platform. It is characterized by compulsive engagement in Whatsapp activities, such as scrolling through endless video feeds, creating and posting content and constantly seeking validation and social interactions within the Whatsapp community.

Bergen Social Media Addiction Scale (BSMAS) was used to calculate Whatsapp addiction level. The cutoff scores for the BSMAS vary depending on the study and the population. In the original study introduced the cutoff scores which were proposed in the original and various studies, non-Addiction ranged from 0-18 and Addiction ranged from 19-30. Likert scale was used to assess each item on the measure, on a scale from 1 to 5, with response (ranging from "very rarely" to "very often"). Individual, social, and environmental factors can all have an impact on Whatsapp addiction. Whatsapp addiction has a number of causes and contributing factors, including:

**Instant gratification:** WhatsApp offers real-time messaging and feedback, which might cause the brain to release dopamine, producing feelings of pleasure and fulfillment. This cycle of quick reward can lead to compulsive behavior as users turn to the app for ongoing affirmation and social connection.

**Fear of missing out FOMO:** WhatsApp frequently uses group chats and real-time updates, which can cause FOMO, or the fear of missing out on vital information, social events, or conversations. People may be driven by this dread to check the app frequently and stay active, even if it interferes with other elements of their lives.

**Peer Pressure and Social recognition:** The social character of WhatsApp feeds the demand for peer approval and social recognition. Individuals may prefer using WhatsApp

over other activities due to the need to participate actively in group conversations, which could develop to addiction.

**Escapism and Stress Reduction:** People may use WhatsApp as a kind of escapism or stress reduction from real-world issues or obligations. Engaging with the app might temporarily divert attention, lessen loneliness or distress, and reinforce addictive behavior.

**Boredom and procrastination:** When people are bored or confronted with difficult or tedious work, WhatsApp can provide amusement and diversion. This may result in overuse, especially if one is attempting to escape obligations or tasks.

**Social Comparison:** Through status updates, stories, and chats, WhatsApp users can assess how their lives stack up to those of others. The ongoing comparison may cause users to feel insufficient or motivated to compete for attention, which would increase app usage.

WhatsApp's notification system and app design are created to capture users' attention and keep them interested. The ease of access, frequent notifications, and message previews can all lead to compulsive checking and addiction.

**Loneliness & Isolation:** For some people, especially if they feel lonely or alone in their offline life, WhatsApp may be their main source of social engagement. Addiction may result from a heavy reliance on the app for social interactions.

**Lack of Self-Control:** Some people may have issues with self-control and find it difficult to set limits for their use of WhatsApp. Without sufficient restraint, individuals risk giving in to addictive tendencies and abusing the app.

**Unhealthy coping strategies:** People who are experiencing emotional pain may use WhatsApp to get support, attention, or a distraction. As it becomes a habitual reaction to stress or bad emotions, depending on the app for emotional control might cause addiction.

It's crucial to remember that WhatsApp addiction, like any other type of addiction, can vary from person to person in terms of severity and effects. Individuals, educators, and mental health professionals can effectively treat and manage WhatsApp addiction by being aware of these underlying causes and conditions.

The research objectives to distinguish among athletes and non-athletes while examining and comprehending the connection between physical exercise and WhatsApp addiction in university-level early adults. The study's objectives are to investigate the causes of WhatsApp addiction and the potential effects of physical activity on addictive behaviors in this particular group. The research aims to offer useful insights into prospective preventive measures and intervention techniques to achieve a better balance between technology usage and physical activity among university students by identifying the correlations between physical activity and WhatsApp addiction. The study intends to fill the knowledge gap in this area, adding to the body of knowledge and expanding our knowledge and effects of physical activity on young adults' addiction to technology.

The lack of investigation on WhatsApp addiction among young adults in universities, specifically discriminating between athletes and non-athletes, constitutes a research gap in this study. While the majority of the study currently available focuses on general technology addiction or other social media platforms, WhatsApp's addictive potential is relatively untapped. Furthermore, there are few research examining the special contribution of physical exercise to the development of WhatsApp addiction in this age range. Designing successful interventions to encourage a healthy balance between physical exercise and technology use among university-level early adults requires an understanding of the underlying mechanisms and contextual elements that contribute to this interaction.

The study objectives was to determine the level of physical activity of young adults enrolled in universities, separating athletes from non-athletes, using the International Physical Activity Questionnaire (IPAQ) or other suitable metrics, To assess the level of WhatsApp addiction among young adults enrolled in universities by looking at the frequency and length of app use as well as the emotional and behavioural characteristics of addiction and, Examine the link between physical activity and WhatsApp addiction among young adults in college, looking for evidence that more physical activity is linked to reduced rates of WhatsApp addiction.

The Study holds significance for several reasons, By examining the connection between physical exercise and WhatsApp addiction among university-level early adults, with a focus on differentiating between athletes and non-athletes, the study fills a significant research vacuum. The research will advance our knowledge of this intricate relationship and add to the body of knowledge on technology addiction and how it interacts with physical exercise. It's important to comprehend how excessive WhatsApp usage affects university students' health and wellbeing. The results of the study can be used to highlight some of the possible dangers of WhatsApp addiction, including increased social isolation, decreased physical activity, and detrimental psychological impacts. This information can help medical practitioners and counselors create focused strategies to deal with these problems. Universities and colleges can use the study's findings to create instructional initiatives that support digital literacy and ethical technology use. It is possible to enhance students' general well-being and academic performance by raising awareness of the potential drawbacks of WhatsApp addiction and advocating a balanced use of technology. By separating study participants into athletes and non-athletes, it is possible to get understanding of how WhatsApp usage habits may be influenced by participation in sports. This information can be used by athletic directors and coaches to create plans that assist athletes' mental health and guarantee a good balance between their athletic responsibilities and online activities. The findings of the study can help policymakers understand the necessity for laws and regulations to deal with digital addiction among college students. It can aid in the creation of complete frameworks for digital well-being that encourage both physical activity and appropriate technology use. The study's findings can help university students become more aware of the risks associated with excessive WhatsApp use and the value of leading a balanced existence. It can enable people to take control of their digital use and create better behaviors. By examining the connection between physical activity and WhatsApp addiction, the study can give light on how early-adult digital activities may affect people's long-term health and technology usage patterns as they mature.

The research issue this paper attempts to address is to explore the relationship between physical activity and WhatsApp addiction among university-level early adults, distinguishing between athletes and non-athletes. The study aims to investigate whether there is a significant association between physical activity levels and the extent of WhatsApp addiction in this specific population. Additionally, the research seeks to identify the underlying factors that contribute to WhatsApp addiction and how sports involvement may influence addictive behaviors. By examining research problem, the study aims to contribute to the understanding of technology addiction patterns and potential impact of a physical activity on such behaviors among university students, thereby providing valuable insights for promoting digital well-being and healthy lifestyle choices.

The research question was, What are the contributing factors that lead to WhatsApp addiction among university students?

The hypotheses for the study observed the relationship between physical activity and Whatsapp addiction among athletes vs non-athletes at the university level in early adults. Athletes exhibited lower levels of Whatsapp addiction as compared to non-athletes. The higher levels of physical activity associated with lower levels of Whatsapp addiction

among university-level early adults. The relationship between physical activity and Whatsapp addiction differed between athletes and non-athletes.

### **Literature Review**

The relationship between physical activity and technology addiction, including addiction to social media platforms like WhatsApp, has been an area of growing interest in recent years (Kwok, Leung, Poon, & Fung, 2021). A number of studies have looked at how technology use affects numerous areas of health and wellbeing, but there is still a need for more study to fully understand the relationship between physical activity and WhatsApp addiction among young adults in higher education. In order to fill this knowledge vacuum and shed light on potential implications for this group of people, this review of the literature will compile pertinent studies.

Various research studies have considered the addictive behaviour of technology and its effects on mental health and social dealings. Brailovskaia, Ozimek, and Bierhoff (2021) conducted a study on the association between physical activity and whatsapp addiction among students, showed a significant negative association between these variables. Similarly, Kuss and Griffiths (2017) led a meta-analysis of 41 studies, underlining the frequency of technology addiction among youngsters and its injurious effects on academic performance, sleep, and emotional well-being. These studies highlighted the influence of understanding technology addiction behaviors in university-level early adults and the potential role of physical activity in mitigating such addictive behaviors.

In recent years, research has progressively focused on the impression of physical activity on social media addiction and relationship between physical activities such as Whatsapp addiction (Erbaş & Gümüş, 2020). Physical activity has been exposed to enhance mood, decrease stress and anxiety, and stimulate overall psychological well-being, making it a potential defensive factor against addictive behaviors associated with technology addiction (Rebar et al., 2015).

To understand the unique context of WhatsApp addiction, several studies have explored the psychological and social factors contributing to excessive app usage. The Bergen Social Media Addiction Scale was created and validated by Andreassen et al. in 2012. Which includes items specific to WhatsApp addiction? Their study found that social media addiction is linked to personality traits like neuroticism and extraversion, and it is associated with negative consequences in daily life. Furthermore, Schmuck, Karsay, Matthes, and Stevic (2019) examined the role of social comparison and peer influence in technology addiction, demonstrating that the desire for social acceptance and validation contributes to addictive behaviors in online environments.

Despite the wealth of research on technology addiction and physical activity separately, only a limited number of studies have specifically investigated their interplay among university-level early adults. This study seeks to bridge gap by examine the relationship between physical activity and WhatsApp addiction, while differentiating between athletes and non-athletes. The findings from this research may shed light on the potential protective effects of physical activity against WhatsApp addiction and offer valuable insights for designing targeted interventions to promote digital well-being among university students.

### **Methodology**

#### **Study Design**

This study conducted cross-sectional plan to examine the relationship between the variables which were Physical activity and Whatsapp addiction Population and sample size.

This research study used a random sampling with three universities as the aim for data collecting. With the aid of web resources, we calculated that there were 41,000 students overall. The Yamane Formula (Yamane, 1973) was applied to the entirety of pupils to determine an accurate sample size. The Yamane formula was used to compute the sample size, which came to 200 university students. This sample size included 100 early adults between the ages of 18 to 25, (50 male and 50 female) athletes and 100 non-athletes (50 males and 50 females).

### **Participants Inclusion and Exclusion Criteria**

The Inclusion Criteria was that University-level students within the early adult age range (18-25 years old) who self-identify as either athletes engaged in organized sports or non-athletes not involved in organized sports. Both male and female students were included as athletes who were the part of the university/athletic sports team. The Exclusion Criteria was that Individuals, who were not university-level students, fall outside the early adult age range, have significant physical or health conditions affecting athletic performance. Both male and female students were excluded who were not the part of the university/athletic sports team.

### **Data Collection Tools**

The self-administered demographic section of the survey included various questions aimed at collecting demographic information from the participants such as age, gender, Physical activity etc. To evaluate participants' physical activity levels in the last seven days, IPAQ short version developed by Craig et al. (2003) was employed. This instrument captured information regarding the types and duration of physical activities performed by the respondents. (BSMAS) Bergen Social Media Addiction Scale which was developed by Andreassen et al. (2012) was used to quantify Whatsapp addiction level. The cutoff scores for the BSMAS vary depending on the study and the population being assessed. Different researchers have proposed various cutoff scores to classify individuals as non-addicted and addicted to social media. Andreassen et al. (2012) introduced the cutoff scores which was proposed in the original and various studies, non-Addiction ranged from 0-18 and Addiction ranged from 19-30. All items of the scale were scored on a Likert-type scale, typically ranging from 1 to 5, with response (ranging from "very rarely" to "very often").

### **Data Collection Procedure**

The data collection process involved approaching participants from three selected universities, comprising 3 departments and 18 university sports, provided them the research questionnaires. Prior to initiating the data collection, the persistence of the study was clearly explained to the participants, emphasizing the exploration of the relationship between Physical activity and Whatsapp addiction among early adults at the university level. The same data collection procedure was followed across all five universities, where participants were given approximately 10 minutes to complete the questionnaire. Ethical guidelines and regulations for research involving human participants were emphasized, assuring the participants that their input was voluntary, and they had the right to eliminate anytime. Confidentially and solitude were guaranteed, with collected data anonymized and reported in aggregate form to maintain individual confidentiality. Clear instructions were provided to participants, including specific guidelines for responding to each item of the questionnaire.

### **Data Analysis**

Descriptive statistics and independent t-tests were employed to analyzed the data through SPSS version 22(IBM Corp, 2022) .The *p* value was set at .05 to determine the level of significance

## Result

**Table 1**  
**Independent sampled t-test**

Variables	N	athletes		Non-athletes		t(198)	p	Cohen's d
		Mean	SD	Mean	SD			
Global scoring BSMAS	100	13.21	6.866	22.70	5.440	-10.90	.000	1.532
BSMAS sc	100	1.18	.386	1.85	.359	-12.71	.000	1.797
IPAQ c	100	2.88	.356	2.05	.730	10.21	.000	1.445

Note. \* $p < .01$ ; in all variables

The global scoring of BSMAS (Bergen's social media addiction scale) measure discovered a significant difference among the two groups  $t(198) = -10.90$ ,  $p < .001$ , Cohen's  $d = 1.532$ ). Non-athletes ( $M = 22.70$ ,  $SD = 5.440$ ) scored significantly higher on the global scoring measure compared to athletes ( $M = 13.21$ ,  $SD = 6.866$ ), indicating a higher level of WhatsApp addiction among non-athletes.

Similar results were found for the BSMASsc (scoring category), with non-athletes ( $M = 1.85$ ,  $SD = 0.359$ ) scoring significantly higher than athletes ( $M = 1.18$ ,  $SD = 0.386$ ) ( $t(198) = -12.71$ ,  $p < .001$ , Cohen's  $d = 1.797$ ). This indicates that non-athletes are more prone to WhatsApp addiction compared to athletes.

Furthermore, the IPAQ (international physical activity questionnaire) category also displayed a significant difference between athletes and non-athletes ( $t(198) = 10.21$ ,  $p < .001$ , Cohen's  $d = 1.445$ ). Athletes ( $M = 2.88$ ,  $SD = 0.356$ ) reported engaging in higher levels of physical activity compared to non-athletes ( $M = 2.05$ ,  $SD = 0.730$ ).

Overall, these findings suggest a strong relationship between physical activity and WhatsApp addiction among university-level early adults. Non-athletes exhibited higher levels of WhatsApp addiction, as evidenced by their higher scores on the global scoring and BSMAS measures, compared to athletes. Additionally, athletes reported engaging in higher levels of physical activity than non-athletes, as indicated by their higher IPAQ scores.

## Discussion

The purpose of this study was to investigate the relationship between physical exercise and WhatsApp addiction among early-adult university students who were both athletes and non-athletes. Results between the two groups showed substantial variations, pointing to a close connection between physical activity levels and WhatsApp addiction.

This study's findings displayed that non-athletes had higher levels of WhatsApp addiction than athletes were consistent with earlier studies on the relationship between addictive behaviors and physical exercise (Cain, 2018; Kim, Kim, Park, & Rice, 2007). One explanation for this connection is that athletes are more actively involved in sports and physical activities, which may be a healthier and more rewarding way for them to spend their free time and lessen their dependency on addictive behaviors like excessive WhatsApp addiction.

Regular physical activity has been displayed to have various mental health profits, such as decreasing stress, anxiety, and depressive symptom (Marks, De Foe, & Collett, 2020; Rebar et al., 2015). Engaging in physical activity may provide athletes with a natural and



healthy way to cope with stress and negative emotions, reducing the likelihood of resorting to addictive behaviors like excessive WhatsApp usage and its addiction.

Understanding and treating addictive behaviors among university students will be significantly impacted by the strong link between physical exercise and WhatsApp addiction. These results highlight the potential contribution of physical exercise programs to the prevention of WhatsApp addiction, particularly in non-athletes. Students can have opportunity to get physical activity and take a break from excessive social media use by participating in workout programs, sports teams, or recreational activities in universities.

### **Conclusion**

In conclusion, this study revealed that non-athletes at the university level in early adulthood exhibited higher levels of WhatsApp addiction compared to athletes. Athletes reported interior levels of physical activity and inferior levels of addiction, indicating the potential protective role of sports engagement. These findings highlight the importance of promoting physical activity as a preventive measure and incorporating it into interventions to address WhatsApp addiction among university students. Further research consuming longitudinal designs, objective measures, and qualitative approaches is required to gain a deeper kind of the relationship between physical activity and addictive behaviors in the digital era.

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