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METHODS OF INFORMING ON THE SIGNIFICANCE AND EFFECTS OF PHYSICAL ACTIVITY

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Abstract: The ability of mass media to guide public attention has been known throughout history, and it has become much more important in the digital age when information is abundant. This era has also created many new opportunities for information distribution outside the traditional media, allowing media professionals and a wide spectrum of others to spread mass messages. All of this has impacted sports and physical activity, increasing the importance of media in this section of society in various ways. The purpose of this study was to see how different actors (parents, teachers, coaches) with varying daily routines (depending on their career) gather information regarding the value and impacts of physical activity, as well as whether it is important to them at all. The role of mass media is also assessed in disseminating information on these topics compared to other potential sources, such as conversations with friends, sports coaches, and doctors. The research was conducted in September 2022 as part of the „Promoting Green Strategies in Sport, ERASMUS Sport+“ initiative. It included participants from Serbia, Belgium, and Bulgaria. Based on the findings, it can be concluded that respondents primarily obtain information from social networks, friends, and doctors, which can serve as a guideline for the future development of communication channels about the importance and effects of physical activity.

Keywords: social media, exercise, recreation, sedentary habits

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Introduction

Physical activity encompasses all movements that increase energy expenditure above resting levels. This type of activity primarily includes everyday actions such as walking, cycling, climbing stairs, and household chores. Regular and appropriately dosed physical activity is a key element of a healthy lifestyle, with a significant impact on the prevention of various diseases. The World Health Organization has repeatedly called on governments worldwide, emphasizing the importance of physical activity for maintaining and improving public health (Ostojić et al., 2009; Petronijević, 2023).

According to numerous studies, regular and appropriately adapted physical activity positively affects health status, particularly concerning the locomotor system, cardiovascular health, mental well-being, diabetes, obesity, and malignant diseases (Silveira et al., 2022; Copic et al., 2019; Ostojić et al., 2009; Miyashita et al., 2008). Human nature is such that movement is essential for existence. Research has shown that moderate-intensity walking during a lunch break over a prolonged period provides higher-quality rest, improves mood, reduces stress levels, and aids in weight reduction (Miyashita et al., 2008). Grandić and colleagues (Grandić et al., 2018), as well as Bull and collaborators (Bull et al., 2020), recommend that children and adolescents aged 5–17 should engage in at least 60 minutes of moderate to vigorous physical activity daily. Most of this activity should be in an aerobic mode. Physical activity should include natural forms of movement aimed at strengthening muscles and bones and should be performed at least three times per week.

Specifically, results regarding physical activity suggest that standing for one hour instead of sitting while watching television can lead to a reduction in body weight of 1–2 kg over a year (Hu et al., 2003). Similarly, brisk walking for 20 minutes can result in a weight loss of 5 kg (Galani & Schneider, 2007).

However, advancements in science and technology have contributed to a decline in the level of physical activity in modern humans. Today's lifestyle, where many tasks are simplified or automated, has significantly reduced the need for movement. The fast pace of life and high healthcare costs have led to increased investments in prevention worldwide. As sedentary behaviors become more prevalent, public health initiatives emphasize the importance of incorporating regular physical activity into daily routines. Prevention has become essential, as health is increasingly seen as a luxury. Movement, as an irreplaceable factor, has the unique ability to promote recovery in the body, making new research in this area extremely important (Lee & Skerrett, 2001).

Additionally, physical activity plays a vital role in maintaining health and the optimal functioning of the body. In early childhood, regular physical activity fosters the proper development of motor skills, which positively affects the cardiovascular, respiratory,

and endocrine systems. It serves as a foundation for healthy growth and development, as well as for forming habits that impact long-term health. During adolescence, physical activity contributes to mental health, enhancing cognitive function and emotional resilience. However, with age, a lack of physical activity, often due to modern sedentary lifestyles, leads to a decline in the functional capacities of the body. This manifests as a weakening of motor abilities and a deterioration of organ system functions, potentially resulting in numerous health issues. Maintaining an optimal level of physical activity becomes particularly important in middle age, when the risk of chronic diseases increases, and it continues to be essential in later life for preserving independence and quality of life.

To ensure that such benefits reach the general population, it is necessary to promote the importance of physical activity through mass media. Their role has historically been significant in directing attention and shaping public opinion, first through print media daily and periodical and later through radio and television content. However, the media landscape has never been as complex and intertwined as it is today, in the digital age, encompassing both traditional media formats and new ones, where active individuals play a significant role. "Being online has become an obsession initially partial, depending on the number of available hours, and later permanent, as technology advanced," a transformation that occurred, in historical terms, almost "in an instant" (Bajić, 2020). Traditional media, which experienced their peak popularity, still exist but have had to adapt over time to new circumstances to survive (Turow, 2019). Meanwhile, new significant players of this century have emerged in the form of social networks, or social media. In this context, the concept of "mass self-communication" stands out as one of the key ideas, as discussed by Manuel Castells (2009):

"Traditional mass communication is one-directional (the message is sent from one to many, as with books, newspapers, films, radio, and television). To be sure, some forms of interactivity can be accommodated in mass communication via other means of communication. For example, viewers can comment on talk radio or television programs by calling in, writing letters, and sending e-mails. Yet, mass communication used to be predominantly one-directional. However, with the diffusion of the Internet, a new form of interactive communication has emerged, characterized by the capacity of sending messages from many to many, in real time or chosen time, and with the possibility of using point-to-point communication, narrowcasting or broadcasting, depending on the purpose and characteristics of the intended communication practice."

Given all this, it is clear that the volume of information accessible to people today has increased multifold, even on a daily basis—not only through content created by media professionals but also through communication and interaction with various other actors in the online world. In fact, more information has been generated during our

lifetime than the total amount of information known throughout history before that, with this number growing exponentially year by year (Potter, 2022). As a result, media literacy is increasingly mentioned as a crucial area for development to reduce uncertainty when attempting to sort and evaluate the quality of information reaching us. This is an ongoing process that involves continuous education, especially given the rapid changes in the media landscape, driven primarily by advancements in technology. The media environment as we know it today is markedly different from what it was at the start of this millennium, not so long ago. The widespread adoption of advanced digital technologies by the general population has significantly contributed to the rapid development of user-generated media content worldwide during the first decade of this century (Manovich, 2008).

All of this has influenced sports and physical activity, increasing the importance of media in this segment of society in various ways—shifting the focus from the traditional media landscape dominated by media professionals to information shared and transmitted by other actors, such as those on social networks. Consequently, greater caution and continuous education are necessary to enable the average reader, listener, viewer, or user to select content that is genuinely valuable and beneficial for their health.

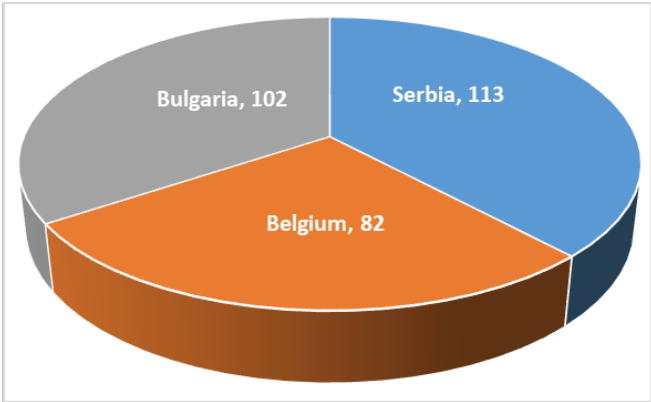
The aim of this study was to understand how different actors (parents, teachers, coaches) with diverse daily routines (depending on their profession) gather information about the significance and impact of physical activity and whether they consider this important at all. Additionally, the study evaluated the role of mass media in disseminating information on these topics compared to other potential sources, such as conversations with friends, sports coaches, and doctors.

Methods

Participants

Data collection was conducted in 2022 as part of the Erasmus+ project Progress (Promoting Green Strategies in Sport). The study involved 297 participants from three countries: 113 from Serbia, 82 from Belgium, and 102 from Bulgaria (Figure 1). The sample consisted of individuals over 20 years of age, including coaches, parents, and teachers. A 12-question survey was designed using the Google platform, including items measuring parental and child physical activity levels, as well as parental support for children's physical activity. The questionnaire included both closed- and open-ended questions. However, for the purposes of this study, the research focused on how participants gather information about the importance of physical activity.

Figure 1. Participants



Statistical Analysis

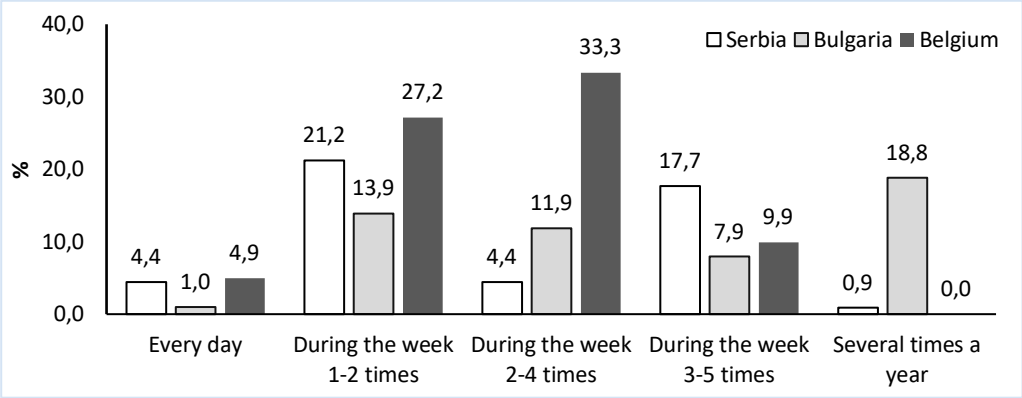
The survey results were collected via the Google platform and subsequently exported to Microsoft Excel. In Excel, the data were filtered, and errors were eliminated. The cleaned dataset was then exported to the statistical software SPSS 20 for analysis. The data were processed using descriptive indicators, including totals and mean values.

Results and discuccion

Graph 1 presents the results of the study regarding the frequency of physical activity, expressed as percentages, for participants from Serbia, Bulgaria, and Belgium. On a general level, a comparison of the results across all three countries reveals the following:

- Belgium: 75% of respondents reported engaging in regular physical activity. Among them, 4.9% reported exercising every day, 27.2% 1–2 times per week, 33.3% 2–4 times per week, and 9.9% 3–5 times per week.
- Serbia: Physical activity was somewhat less prevalent, with 47.8% of respondents reporting regular activity. Of these, 4.4% exercised daily, 21.2% 1–2 times per week, 4.4% 2–4 times per week, and 17.7% 3–5 times per week.
- Bulgaria: Respondents were the least physically active, with only 34.7% engaging in regular activity. Among these, 4.9% exercised daily, 27.2% 1–2 times per week, 33.3% 2–4 times per week, and 9.9% 3–5 times per week.

Graph 1. Frequency of Physical Activity Among Participants from Serbia, Bulgaria, and Belgium.



Advancements in digital media for broadcasting health-related messages (Chou, et al., 2013) and enhancing social impact (Centola, 2013) make media a promising platform for promoting physical activity. While health professionals and various entrepreneurs have utilized social media for health and fitness promotion (Li, et al., 2013; Young, et al., 2014), recent meta-analyses have yielded mixed results regarding their effectiveness (Laranjo, et al., 2015). There is still limited understanding of how to leverage social media as a cost-effective solution for combating sedentary lifestyles.

Table 2 shows the results of a study conducted in three European countries, which aimed to identify the most commonly used method of information dissemination.

Table 2. Methods of informing about the effects of physical activity in Serbia, Belgium and Bulgaria

		Daily or weekly newspapers	Sports newspapers	Social media	Youtube videos	Professional books	Friends	Sports coaches	Doctors	I have not been informed, but I want to
Serbia	No	57,52	75,22	23,89	37,17	51,33	19,47	29,20	29,20	91,15
	Yes	42,48	24,78	76,11	62,83	48,67	80,53	70,80	70,80	8,85
Belgium	No	75,61	85,37	17,07	45,12	69,51	18,29	43,90	32,93	82,93
	Yes	24,39	14,63	82,93	54,88	30,49	81,71	56,10	67,07	17,07
Bulgaria	No	68,32	90,10	16,83	60,40	65,35	40,59	51,49	24,75	92,08
	Yes	31,68	9,90	83,17	39,60	34,65	59,41	48,51	75,25	7,92
Total	No	67,15	83,56	19,27	47,56	62,06	26,12	41,53	28,96	88,72
	Yes	32,85	16,44	80,73	52,44	37,94	73,88	58,47	71,04	11,28

Most young people and parents today get informed about the importance of physical activity and health through social media, which has become an indispensable channel for sharing and accessing information. Thanks to their accessibility, speed, and interactivity, social media platforms allow users to follow content related to a healthy lifestyle, such as nutrition tips, fitness programs, and the importance of physical activity (Zhang et al., 2015; Chou et al., 2013; Li et al., 2013). This trend points to a shift in how people access information, as traditional sources like newspapers and television are being used less in favor of digital platforms that offer tailored and easily accessible content. This is also confirmed by the present study, which showed that as much as 80% of the total sample gathers information on the effects of physical activity through social media (76% in Serbia, 83% in Belgium and Bulgaria).

In addition to social media, another essential source of information about the importance of physical activity comes from trusted sources, and in this case, these are friends and doctors, with 71%-74% of respondents mentioning them. Advice and experiences from friends often play an important role because they come from an informal and familiar environment. Friends may share personal experiences, recommend activities that have been beneficial for their children, or exchange information about local sports clubs, recreational centers, and ways for children to stay physically active. However, healthcare professionals, i.e., doctors, are among the first people parents turn to for health advice through physical activity. When doctors emphasize the importance of physical activity, they do so with professional authority, using WHO guidelines. Parents typically perceive their recommendations as reliable and valid, especially when linked to disease prevention, boosting immunity, or developing motor skills in children.

In a study by Zhang et al. (2015), the results suggest that an effective strategy for using social media to promote behavior change could be a hybrid approach that initially encourages physical activity through media campaigns.

The least information, according to respondents, is obtained from sports newspapers, which corresponds to their lower readership compared to media with a broader spectrum of interests. Additionally, the reason for this can be found in the specialized content. Sports newspapers primarily focus on reporting on competitions, results, and analyses of sports events... Topics promoting physical activity as a health habit or lifestyle are often marginalized. In other words, promoting healthy habits for the general population is not set as a primary goal, and thus, significant resources are not invested in this segment.

Conclusion

Beyond social media, trusted sources like friends and doctors play a vital role in promoting physical activity, with 71%-74% of respondents citing them as key influences. Advice from

friends is impactful due to its informal, relatable nature, often involving personal experiences, recommendations for activities, or information about local sports and recreational options for children.

Doctors, on the other hand, hold professional authority and are often the first point of contact for parents seeking health advice related to physical activity. Their guidance, typically grounded in WHO recommendations, is perceived as credible, particularly when tied to benefits like disease prevention, immune support, and motor skill development in children.

Zhang et al. (2015) suggest that a hybrid strategy combining media campaigns with social media engagement could effectively encourage behavior change toward increased physical activity.

Conversely, sports newspapers provide minimal information on this topic, reflecting their narrower audience and focus on competitive sports, results, and event analysis. Content that emphasizes physical activity as a lifestyle or health habit is often deprioritized, as these publications primarily focus on reporting sports events rather than health advocacy, allocating limited resources to initiatives targeting the general public's well-being.

Further research is needed to explore how platform-specific features and user engagement strategies can enhance the impact of social media interventions. Additionally, identifying the role of tailored content in reaching diverse demographic groups could provide valuable insights for future initiatives.

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Author Contributions

Conceptualization, N.Č., S.P. and I.P.; **Resources**, N.Č. and P.B.; **Methodology**, I.P., V.B.; **Investigation**, N.Č. and S.P.; **Data curation**, N.Č.; **Formal Analysis**, S.P. and I.P.; **Writing – original draft**, N.Č. and P.B.; **Writing – review & editing**, I.P.:

All authors have read and agreed to the published version of the manuscript.

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