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Journal Article

Watching Exercise and Fitness Videos on TikTok for Physical Education: Motivation, Engagement, and Message Sensation Value

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Abstract:

Physical education (PE) is a crucial component of a holistic educational framework. With social media progressively embedding itself as a core element within youth culture, recent studies are pointing to TikTok as a potential source of knowledge. Unfortunately, compared to platforms like YouTube, research on TikTok as an educational resource is relatively new. This research gap is particularly noticeable in PE despite the abundance of exercise and fitness content on the platform. Thus, this study explored PE students' interactions with and consumption of fitness content on TikTok. Based on the results, it was found that PE students primarily watch fitness videos for entertainment. They also seek motivation and inspiration, although more commonly among male students who also use them for social interaction. Conversely, female students watch these videos for escape and to seek advice and guidance. In terms of engagement, PE students tend to watch fitness videos on TikTok from start to finish when they feature body transformations, fitness tips and advice, and motivational content. They also tend to apply what they have learned from videos that provide exercise tutorials, fitness tips and advice, and nutrition education. When it comes to arousing emotions, engaging the senses, and eliciting affective responses, PE students find body transformations and motivational videos to be the most effective.

Keywords:

Social Media, TikTok, Physical Education, Fitness, Uses and Gratifications, Motivation, Engagement, Message Sensation Value

INTRODUCTION

Physical education (PE) is an integral component of a well-rounded education. Comprehensive PE curricula encompass a wide range of activities that promote physical fitness (Alawamleh & AlKasasbeh, 2024), skill development (Dimarucot et al., 2024), and overall health (Knoke et al., 2024). Studies have demonstrated the significant impact of PE on various aspects of student development, including attitude (Garcia et al., 2023), motivation (de Bruijn et al., 2023), and academic performance (Rasberry et al., 2011). Regular participation in PE classes also helps reduce stress levels, improves mood, and boosts overall mental well-being (Li et al., 2022; Sepriadi et al., 2023). In a comprehensive review that examined 88 studies published between 2008 and 2017, Opstoel et al. (2019) underscored the vital role of PE in fostering personal and social development. Their review demonstrated a strong correlation between engaging in PE and a wide range of positive effects, such as fostering a strong work ethic, nurturing leadership skills, encouraging cooperation, enhancing problem-solving abilities, promoting prosocial behavior, and more. Poliszczuk and Dzich (2011) also emphasized that PE provides an avenue for self-expression and creativity by allowing students to explore different movement patterns and discover their physical capabilities. However, some research has highlighted potential downsides of PE, such as the reinforcement of traditional gender roles, which can limit students' experiences and perpetuate stereotypes. For instance, girls may be encouraged to participate in activities deemed less strenuous or competitive, while boys may be pushed towards more physically demanding sports (Deng, 2023). Due to its positive benefits and the need to address and mitigate any negative aspects, PE continues to be an important and ongoing research area in education.

PE programs typically incorporate a blend of individual and team sports (Ferraz et al., 2021), such as basketball, swimming, and gymnastics. Additionally, they include activities like dance (Mattsson & Lundvall, 2015), yoga (Amemiya et al., 2020), and outdoor education (Finn et al., 2018), which are designed to enhance movement skills and foster physical literacy. To inspire an active lifestyle, PE programs also emphasize fitness training with activities that enhance cardiovascular health, muscular strength, and coordination (Forest et al., 2017). Such exercises may encompass strength training, stretching routines, aerobic workouts, and other activities that enhance physical fitness levels. Engaging in these physical activities offers numerous positive health benefits, including enhanced coordination, increased muscular strength, improved cardiovascular health, and overall physical fitness (Janssen & LeBlanc, 2010; Miller et al., 2016; Vendramin et al., 2016). From an educational standpoint, employing physical activities as a breather from academic instruction yields positive post-engagement effects such as enhanced attention, improved on-task behaviors, and better academic performance (Kohl & Cook, 2013). Consequently, teaching physical activities holds significant importance within research and educational practice. This interest is further evidenced by the growing focus on effective methodologies to ensure optimal outcomes in this domain (J. Zhang et al., 2024).

According to a systematic review (Jastrow et al., 2022), there is a growing trend in the utilization of digital technology as a pedagogical tool in PE. Some examples include wearable

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devices (Ahmed & Leung, 2021), exergames (Staiano & Calvert, 2011), personalized applications (Garcia et al., 2021), virtual reality (Li et al., 2023), artificial intelligence (Mishra et al., 2024) and more. Lupton (2022) highlighted that digital technologies can enhance students' engagement and interest in theoretical content while also motivating them to be more physically active. In recent years, social media has emerged as another potential tool to promote physical activity and provide educational resources (Jiang & Ning, 2022; Kinchin & Bryant, 2015; Vollum, 2014). Goodyear et al. (2019) also observed that young people are increasingly using social media to seek information related to health, including topics such as nutrition, physical activity, and body image. Several studies noted that platforms like YouTube have gained popularity as a valuable medium for sharing exercise tutorials, workout routines, and health-related information (McDonough et al., 2022; Quennerstedt, 2013; Sui et al., 2022; Vancini et al., 2021). Durau et al. (2022) pointed out that instructional videos produced by social media content creators are a convenient and accessible source of access to fitness-related content. These videos serve as valuable supplementary learning materials by offering visual demonstrations and step-by-step instructions (McDonough et al., 2022; Sokolova & Perez, 2021). For instance, students can benefit from observing the correct form and execution of exercises, enabling them to imitate and practice movements accurately. Meanwhile, other prior works cautioned of the negative effects, such as potential addiction, insufficient sleep, distractions from educational tasks, excessive use for non-academic activities, and reduced face-to-face social interactions (Kolhar et al., 2021). Considering the increasing prevalence of these platforms and their associated challenges, further research is necessary and timely to responsibly advance pedagogical practices in PE.

Among social media video platforms, TikTok has become a cultural phenomenon for younger generations (McCashin & Murphy, 2022). Young people frequently use TikTok as a means of self-expression and creative communication. This platform allows users to showcase their talents, share their unique perspectives, express their humor, highlight their interests, and even engage in social activism (Literat & Kligler-Vilenchik, 2023; Roth et al., 2021). Recently, TikTok has been steadily gaining recognition in education as a form of nanolearning. As observed by Garcia et al. (2022), although TikTok is predominantly recognized for its entertainment-oriented content, it also hosts a substantial number of educational videos. Other studies corroborate this discovery by investigating TikTok as a learning space where instructional content is delivered and consumed. For instance, Ding et al. (2023) examined the impact of short instructional videos on learning business statistics. They discovered a significant advantage for students who utilized short videos. This finding aligns with the research of Febrianti et al. (2022), which identified its substantial positive impact on academic achievement. Given the growing evidence of TikTok's educational potential and the consumption of content related to physical activity on other social media platforms (Goodyear et al., 2021), it is logical to extend this inquiry into the domain of PE. Exploring this in PE is essential as it aligns with modern students' media consumption habits and can potentially enhance engagement and effectiveness in promoting physical activity among youth. Additionally, integrating popular digital platforms into PE curricula can make the program more accessible to today's tech-savvy students (O'Donnell et al., 2023).

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THEORETICAL FRAMEWORK

Uses and Gratification Theory

In examining why individuals seek out media, the Uses and Gratification Theory (UGT) is commonly employed as a guiding framework. The fundamental concept underlying UGT is that individuals pursue media that align with their needs leading to gratifications. As elaborated by Ferris et al. (2021), the core tenets of UGT include the understanding that (1) media consumers play an active role in selecting content to meet their needs, (2) personal psychological and sociological factors shape these choices, and (3) media competes with alternative sources for fulfilling needs, potentially varying its impact when assessing effects or consequences. With its roots in the field of mass communication and media studies, UGT was predominantly applied in traditional media contexts (e.g., television and print publications). However, over time, it has evolved to become an indispensable framework for understanding the intricacies of modern media consumption behaviors. As a case in point, Whiting and Williams (2013) exemplified UGT's relevance in the social media context by using it to dissect users' motivations for engaging with these platforms. They identified ten distinct uses and gratifications, including social interaction, information seeking, entertainment, relaxation, pastime, communicatory utility, expression of opinions, convenience utility, information sharing, and surveillance and observation of others.

UGT has also been applied to explore the reasons behind people's preference for short-form videos. For instance, Dong and Xie (2024) analyzed motivations for watching short-form videos and identified six primary motives: seeking novelty, habit, relationship maintenance, releasing pressure, killing time, and escapism. These findings underscore the diverse reasons individuals are drawn to platforms like TikTok. According to Falgoust et al. (2022), UGT provides a valuable framework for elucidating the motivations behind their participation on the platform. Nevertheless, most studies examining TikTok using UGT focus primarily on social media contexts, which is understandable given the platform's nature. However, there remains a gap in the literature concerning the use of TikTok in educational contexts. Furthermore, studies specifically focusing on the use of TikTok content in PE are particularly limited. In addition to these gaps, it is important to note that most UGT studies emphasize motivations while often overlooking engagement. In social media research, engagement metrics (e.g., likes, shares, and comments) offer a deeper understanding of user interaction and connection with content (Soares et al., 2022). Given these gaps, further research is warranted to explore how TikTok can be effectively utilized in educational settings, particularly in PE. Such research can contribute to a more comprehensive understanding of both motivational and engagement aspects, which could inform better practices in the integration of social media in educational contexts.

Message Sensation Value

While most studies probe into why people turn to social media using UGT, they often overlook assessing the emotional and sensory impact that media content evokes. This oversight can result in an incomplete understanding of the holistic media consumption experience (Lee et

al., 2021). As noted by prior studies (e.g., Paek et al., 2010; Yang et al., 2024; W. Zhang et al., 2024), analyzing the MSV is crucial to comprehensively capture the richness of media engagement. Palmgreen et al. (1991) defined MSV as the measurement of how media content's audio-visual elements trigger sensory, emotional, and arousal responses. Their study found that MSV can influence individuals' behavioral intentions, with the effectiveness of this influence varying based on their sensation-seeking traits. In the social media context, the level of MSV is correlated with the number of viewers, viewer ratings, and user engagement through comments (Paek et al., 2010). This concept aligns with the Limited Capacity Model (Lang, 2000), which posits that individuals' attention to broadcast messages is often influenced by involuntary processes triggered by specific elements within the content. Moreover, viewers exhibit a higher likelihood of engaging with videos when they incorporate provocative elements and characteristics, including vivid imagery, dynamic motion, and rapid pacing. In essence, these message attributes can offer heightened cognitive stimulation and elicit stronger responses.

Given its influence on media consumption, complementing UGT with MSV in this study broadens our insight into the driving forces behind TikTok content consumption among PE students. This combination is important because it provides a more comprehensive picture of why and how they engage with media. For example, while UGT explains that users seek out content that fulfills their needs (Ferris et al., 2021), MSV explains how the content's sensory and emotional triggers keep users engaged and influence their behavioral intentions (Yang et al., 2024). As W. Zhang et al. (2024) observed, videos with high MSV easily attract public attention online; however, the effectiveness of MSV can vary depending on the context. This variability underscores the need for further research in educational contexts, where MSV has not been extensively studied. By exploring how MSV operates in educational settings, we can better understand how to create engaging and effective educational content that leverages both motivational and sensory elements. This approach can enhance learning outcomes and promote active engagement with educational material (Chen & Xia, 2012; Li & Liu, 2023). Additionally, understanding the role of MSV in decoding online content can help PE educators design instructional materials that not only captivate students' attention but also sustain it. Studying MSV alongside UGT is crucial, as it allows for a more holistic understanding of both the motivations behind and the engagement with TikTok fitness content among PE students.

RESEARCH GAP AND QUESTIONS

Like YouTube, short-form content platforms like TikTok are gaining popularity due to their engaging and easily digestible nature (Garcia et al., 2022). Many studies have even compared YouTube and TikTok in various aspects of content consumption and user engagement (e.g., Kılınç, 2022; Silveira et al., 2023). Nevertheless, while YouTube has been extensively studied in the context of educational content, TikTok's potential as an educational tool remains largely unexplored. This gap exists notwithstanding the rigorous academic scrutiny that social media platforms have undergone concerning their potential detrimental impacts on students. Although some recent studies have begun to explore TikTok's educational applications, such as

its use in higher dance education during the COVID-19 pandemic (Heyang & Martin, 2022) and the views of future PE teachers in primary education (Arranz et al., 2023), there is still a lack of research on several fronts. Specifically, these studies have not sufficiently addressed the underlying reasons why students are motivated to engage with TikTok fitness videos, the strategies that enhance student interaction with such content, and the distinctive value these videos bring to PE. Consequently, this study aims to address this research gap by exploring the specific motivation, perceived message sensation value (MSV), and engagement levels associated with exercise and fitness videos on TikTok among tertiary PE students.

This research is significant for several reasons. Firstly, TikTok's distinct style of content delivery, presents an opportunity to investigate how students engage with and perceive information in this novel format (Yousef et al., 2023). Understanding the uses and gratifications students derive from TikTok exercise and fitness content can shed light on the platform's potential as an educational tool in PE, especially considering that health and fitness content on social media can serve as a highly influential form of public education (Camacho-Miñano & Gray, 2021). Goodyear et al. (2019) also noted that social media has become a popular resource among young individuals for obtaining health-related information, including areas like nutrition, exercise, and body image. Secondly, MSV is a concept that has gained prominence in the study of media and communication yet is relatively unexplored within the context of this study. Investigating how students perceive the informational value of these videos can provide insights into the effectiveness of such content as an educational resource. Lastly, given the pervasive role of social media in students' lives (Bringula et al., 2022), it is important to critically assess the levels of engagement they exhibit when consuming exercise and fitness-related content. This study aims to address these gaps in the literature and contribute to a more thorough understanding of how short-form video platforms like TikTok can be leveraged to enhance pedagogical practices in PE.

To achieve these objectives, the following research questions will guide this investigation:

RQ1.   What uses and gratifications do PE students seek from fitness TikTok videos, and how do these perceptions vary between male and female students?

RQ2.   What types of fitness videos on TikTok do PE students prefer, how engaged are they with these videos, and how does their engagement relate to their preferences?

RQ3.   How do PE students perceive the message sensation value of TikTok fitness videos, and is there a significant difference in terms of video types?

METHODS

Research Design

This study employed a quantitative research approach to examine how PE students utilize fitness videos on TikTok. The research design was a descriptive cross-sectional survey, which involved collecting data at a single point in time to analyze their preferences, engagement levels, and MSV of these fitness videos. The choice of a single point in time was justified by several

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factors. First, it provides a snapshot of current behaviors and preferences, which is crucial given the fast-paced nature of social media trends. Additionally, it allows for better control over TikTok consumption. By collecting data at a specific point in time, we minimize the risk of students getting distracted by non-fitness content, ensuring that the data accurately reflects their engagement with fitness videos. The study was limited to specific types of fitness videos (see Figure 1), including exercise tutorials (e.g., "Fat burning exercise will get you sweat and elevate heart rate" by @dudu_lasvegas), fitness tips and guides (e.g., "Gym tips for beginners" by @rose.logan), health and fitness vlogs (e.g., "My daily gym routine" by @treybryantstyle), workout challenges (e.g., "30 day challenge to tackle your belly fat" by @musclepumper), nutrition advice and education (e.g., "A dietitian's secret formula for building balanced meals!" by @nutrition.daily), body transformations (e.g., "60 days of creatine transformation" by @josh_viloria), and motivational videos (e.g., "Strength above all else" by @dansfitspo). Students were given suggestions on how to watch these videos by searching TikTok using example hashtags such as #WorkoutTutorial, #FitnessTips, #GymVlog, #WorkoutChallenge, #NutritionTips, #BodyTransformation, and #GymMotivation. These hashtags are popular tags for categorizing various types of fitness content on the platform. They were also instructed to use other related hashtags to find similar content. The study was approved by the relevant institutions, ensuring adherence to ethical standards such as informed consent, anonymity, and confidentiality (Goodyear, 2017). Measures were also implemented to ensure the secure handling of personal information as required by the Data Privacy Office of the university. These steps were taken to maintain ethical integrity and protect the rights and privacy of all participants involved.
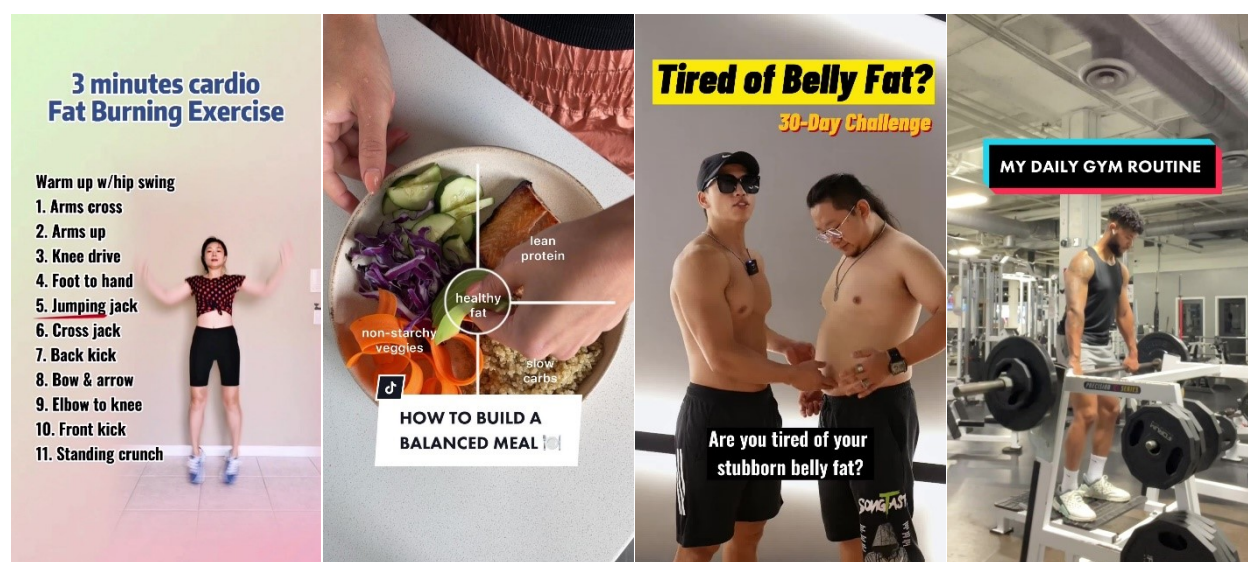
Figure 1. Video thumbnails of sample TikTok fitness content, including exercise tutorials (@dudu_lasvegas), nutrition advice and education (@nutrition.daily), workout challenges (@musclepumper), and health and fitness vlogs (@treybryantstyle).

Setting and Participants

This cross-sectional study was carried out across three campuses of a prominent university, all situated in Metro Manila, Philippines. The target population included students enrolled in any PE course. At the time of the study, only the Physical Education 1 (PE1) course offered to first-year students was available. This course covers the fundamentals of physical fitness and health as well as introduces students to basic movement patterns and preparatory exercises. Of the 3,332 students enrolled across campuses, 10.05% (n = 335) were from the business discipline, 31.15% (n = 1,038) were from the engineering discipline, and 58.79% (n = 1,959) were from the computing discipline. Although originating from different campuses and colleges, all students use the same learning management system (LMS), course syllabus, and learning materials for PE1. This consistency in course structure and materials ensures a uniform academic experience across the various campuses. Additionally, the shared LMS provided the convenience of reaching all target students. Hence, despite the minimum sample size requirement for a 95% confidence interval being 345, invitations were extended to the entire student population. This decision was also driven by their varying levels of prior experience with TikTok, consumption of fitness videos, and the assumption that not all of them would participate (as involvement was voluntary). Such a diverse enrollment is also beneficial as it captures the perspectives of students across various academic disciplines. From a target population of 3,332 students across three universities, 949 completed the survey questionnaire. Of the students who responded, only 597 confirmed using TikTok and watching fitness videos on the platform. Among these eligible respondents, 352 (58.96%) were male, and 408 (68.34%) were from the computing discipline. While this count of eligible responses corresponds to only 17.92% of the population, the final sample size still exceeded the recommended minimum of 345 respondents.

Data Collection and Instrument

The data collection was conducted throughout October 2023 as part of a larger research project exploring the use of TikTok videos as supplemental materials in higher education. However, the analysis for this study was confined to three key areas: uses and gratifications, engagement levels, and MSV. The instrument used in the study was a structured online survey administered via the shared LMS across campuses. The survey questionnaire comprised several sections: demographics, uses and gratifications (Falgoust et al., 2022), engagement levels (Garcia et al., 2022), and MSV (Palmgreen et al., 2002). Using a judgment approach, which involves relying on the expertise and insights of experienced educators to review and refine the survey instrument, the initial questionnaire was scrutinized for completeness, format, and readability by PE teachers. Feedback from this preliminary analysis led to relatively minor modifications, such as adding new statements or simplifying existing ones. Subsequently, a pilot test was conducted on a convenience sample of 40 PE students to evaluate the validity and reliability of the revised questionnaire items. The questionnaire demonstrated internal consistency with Cronbach's alpha values exceeding 0.7. The final validated questionnaire is included in Appendix A.

Data Analysis

From the demographic data, insights were drawn to discern whether specific groups within the PE student population exhibited distinct preferences or behaviors toward fitness TikTok videos. The primary motivations for attracting PE students to these videos were identified through the uses and gratifications data. The depth of interaction with the content was inferred from the engagement metrics, such as watching videos from start to finish, liking videos, sharing videos, commenting on videos, applying the information gained, following the creators, saving videos for later viewing, and rewatching videos. Furthermore, the perceived MSV was examined to gauge the videos' potential to engage viewers and trigger specific emotional and cognitive responses. Except for the demographic section, a five-point Likert scale, spanning from "strongly disagree" (1) to "strongly agree" (5), was employed for evaluations in the other sections. Non-parametric tests were used to analyze the Likert scale data. Specifically, Mann-Whitney U tests were conducted to explore how students' uses and gratifications differ by gender (RQ1). Spearman's rank correlation was employed to investigate the relationship between engagement levels and the types of fitness videos preferred by PE students (RQ2). Lastly, Kruskal-Wallis H tests were utilized to examine whether there is a significant difference in the MSV of different TikTok fitness videos (RQ3). These analyses aimed to provide a comprehensive understanding of PE students' motivations, engagement, and perceptions related to fitness content on TikTok.

RESULTS

RQ1. What uses and gratifications do PE students seek from fitness TikTok videos, and how do these perceptions vary between male and female students?

Table 1 presents interesting patterns after analyzing the uses and gratifications sought by PE students, differentiated by gender, from fitness TikTok videos. Using the Mann-Whitney U test for analysis, it was observed that entertainment garnered the highest mean score (4.29 ± 0.722) from both male and female students. This unanimous preference underscores the reputation of the platform as an entertainment destination (Garcia et al., 2022). Seeking motivation and inspiration is the second most common reason for watching fitness TikTok videos, with males rating it higher than females (p = .000). This deviation implies that male students are more likely to watch fitness TikTok videos as a motivational boost for their workouts and physical endeavors. Conversely, the higher rating for seeking advice and guidance by females suggests that they value the platform as a reliable source for practical tips, guidance, and instructional content on exercises or routines (p = .005). Information seeking is rated similarly by both genders, indicating that fitness TikTok videos are a valuable source of information for PE students. Diverging again in preferences, watching fitness TikTok videos for social interaction is more prevalent among male students (p = .004), possibly hinting at males using the platform as a medium to connect with peers or fitness enthusiasts and share their fitness journeys. In contrast, the higher rating for escapism among females might indicate a tendency for female students to use fitness TikTok videos as a brief respite from daily stresses or as a form of relaxation and

mental detachment ($p = .000$). Overall, the results highlight the diverse uses and gratifications that TikTok content provide for PE students, with some notable differences in terms of gender.

Table 1: PE Students' Uses and Gratifications from Fitness TikTok Videos by Gender

Usage Purpose	Mean	SD	Gender	Mean Rank	*U*	*z*	*p*
Information Seeking	3.87	1.209	Male Female	302.86 293.45	41,760.00	−.694	.488
Motivation and Inspiration	4.11	1.012	Male Female	321.96 266.01	35.037.50	−4.195	.000
Advice and Guide	3.98	1.133	Male Female	283.59 321.14	37,695.00	−2.778	.005
Entertainment	4.29	.722	Male Female	307.76 286.41	40,036.50	−1.629	.103
Social Interaction	3.52	1.566	Male Female	351.14 275.81	37,438.00	−2.870	.004
Escapism	3.41	1.543	Male Female	274.04 334.86	34,334.00	−4.393	.000

RQ2. What types of fitness videos on TikTok do PE students prefer, how engaged are they with these videos, and how does their engagement relate to their preferences?

Table 2 presents intriguing insights into the preferences and engagement behaviors of PE students concerning various fitness video types on TikTok. The results from Spearman's rank correlation further illuminate these findings. Consistent with their primary motives for watching fitness videos on TikTok, motivational videos stood out as the top choice among PE students (4.32 ± 0.58). There is a moderate positive correlation between their preference for motivational videos and their tendency to watch them completely ($r = .523$; $p = .000$) and share them online ($r = .558$; $p = .003$). Following close are videos giving fitness tips and guides (4.12 ± 0.79), which also exhibit a correlation with the students' inclination to watch them ($r = .517$; $p = .032$) and to put the provided advice into practice ($r = .628$; $p = .021$). It is not surprising then that body transformation videos, which often carry a motivational undertone, also resonate with the students (4.08 ± 0.97). These videos demonstrate a positive correlation with the students' likelihood to watch them ($r = .418$; $p = .024$) and to express their appreciation with likes ($r = .432$; $p = .019$). Given the pivotal role of nutrition knowledge in overall health and fitness (Garcia, 2023), it is encouraging to see that students not only prefer watching these videos with nutrition advice and education (3.84 ± 1.45) but also show a tendency to apply what they have learned ($r = .589$; $p = .017$). Interestingly, health and fitness vlogs (3.56 ± 1.33) are the only videos where students display a higher tendency to engage by commenting ($r = .453$; $p = .000$) and following the creators ($r = .504$; $p = .000$). This heightened engagement could be attributed to the entertaining nature and personal touch inherent in vlogs, which often foster a sense of connection and relatability between the viewer and the content creator. Lastly, workout challenges received the

least favor (3.21 ± 1.21) and this is the only video type that did not exhibit any significant correlation with any engagement behaviors among PE students.

Table 2: Preferences and Engagement Correlations for Different Fitness Video Types on TikTok

Video Types	Preference	Watch	Like	Share	Comment	Follow	Apply	Save	Rewatch
Exercise Tutorials	4.05 ± 0.98	3.77 ± 1.08 $r = .154$ $p = .186$	3.11 ± 1.42 $r = .033$ $p = .421$	3.55 ± 1.35 $r = .133$ $p = .415$	3.67 ± 1.30 $r = -.111$ $p = .791$	3.88 ± 1.02 $r = -.121$ $p = .601$	4.21 ± 0.65 $r = .588$ $p = .002$	3.48 ± 1.51 $r = -.229$ $p = .473$	3.98 ± 1.31 r = −.337 $p = .367$
Fitness Tips and Guides	4.12 ± 0.79	3.93 ± 0.98 $r = .517$ $p = .032$	3.28 ± 1.48 $r = .104$ $p = .652$	3.14 ± 1.45 $r = .098$ $p = .802$	3.70 ± 1.49 $r = -.211$ $p = .767$	3.49 ± 1.42 $r = .198$ $p = .069$	4.29 ± 0.70 $r = .628$ $p = .021$	3.63 ± 1.37 $r = .231$ $p = .443$	3.29 ± 1.42 $r = .224$ $p = .534$
Health and Fitness Vlogs	3.56 ± 1.33	3.30 ± 1.78 $r = .125$ $p = .765$	3.17 ± 1.80 $r = .054$ $p = .798$	2.75 ± 1.81 $r = .039$ $p = .872$	3.61 ± 1.27 $r = .453$ $p = .000$	3.50 ± 1.49 $r = .504$ $p = .000$	2.75 ± 1.90 $r = -.115$ $p = .434$	2.93 ± 1.87 $r = -.331$ $p = .395$	2.58 ± 1.84 $r = -.151$ $p = .674$
Workout Challenges	3.21 ± 1.21	3.53 ± 1.32 $r = .125$ $p = .359$	3.64 ± 1.23 $r = -.093$ $p = .542$	3.41 ± 1.56 $r = .102$ $p = .597$	3.60 ± 1.28 $r = -.210$ $p = .558$	2.68 ± 1.68 $r = -.049$ $p = .539$	2.55 ± 1.59 $r = .156$ $p = .204$	2.47 ± 1.75 $r = -.245$ $p = .653$	2.29 ± 1.78 $r = .078$ $p = .343$
Nutrition Advice and Education	3.84 ± 1.45	3.43 ± 1.42 $r = .049$ $p = .259$	3.39 ± 1.58 $r = -.336$ $p = .329$	3.24 ± 1.81 $r = .149$ $p = .075$	2.55 ± 1.29 $r = .095$ $p = .668$	3.11 ± 1.58 $r = -.143$ $p = .325$	4.02 ± 0.91 $r = .589$ $p = .017$	3.35 ± 1.54 $r = -.049$ $p = .533$	2.97 ± 1.25 $r = .156$ $p = .195$
Body Transformations	4.08 ± 0.97	4.27 ± 0.87 $r = .418$ $p = .024$	3.99 ± 0.57 $r = .432$ $p = .019$	3.58 ± 1.40 $r = .039$ $p = .788$	3.55 ± 1.40 $r = .034$ $p = .669$	2.69 ± 1.96 $r = -.233$ $p = .153$	2.68 ± 1.87 $r = .212$ $p = .125$	2.58 ± 1.68 $r = -.129$ $p = .355$	2.97 ± 1.87 $r = -.093$ $p = .529$
Motivational Videos	4.32 ± 0.58	4.31 ± 0.49 $r = .523$ $p = .000$	3.98 ± 1.00 $r = .257$ $p = .067$	4.27 ± 0.68 $r = .558$ $p = .003$	3.58 ± 1.22 $r = -.115$ $p = .567$	3.68 ± 1.32 $r = -.153$ $p = .538$	3.59 ± 1.25 $r = .115$ $p = .670$	2.86 ± 1.77 $r = .089$ $p = .533$	3.02 ± 1.57 $r = -.233$ $p = .533$

Note: **Like** the videos; **Share** the videos; **Comment** on the videos; **Apply** the information gained from the videos; **Follow** the creators after watching the videos; **Watch** the video from start to finish; **Save** the video for later viewing; **Rewatch** the videos after some time.

RQ3. How do PE students perceive the message sensation value of these TikTok videos, and is there a significant difference in terms of video types?

Table 3 presents distinguishable perceptions of PE students toward the MSV of various TikTok videos. Within the novelty dimension, there was no significant difference observed ($p = .156$), suggesting that the student's perception of MSV is consistent across this category. Furthermore, individual MSV items under this dimension, such as 'Unique' ($p = .068$), 'Novel' ($p = .077$), and 'Unusual' ($p = .112$), also did not demonstrate any significant differences, indicating a uniform response among students in their perception of these aspects. Contrastingly, the dramatic impact dimension of the videos showed a significant difference ($p = .043$). Upon further examination, it was found that the 'Dramatic' ($p = .039$) aspect differed notably, with motivational videos (4.12 ± 0.61) ranking highest in this regard, followed closely by body transformation videos (4.01 ± 0.64). Additionally, the 'Goosebumps' ($p = .031$) aspect also displayed a significant difference, with motivational (4.67 ± 0.15) and body transformation (4.35 ± 0.21) videos once

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again leading in terms of impact. This trend suggests that PE students may be drawn to the emotionally stirring and transformative elements in these videos, possibly due to their alignment with personal aspirations and the inspirational nature of such content. The pattern is further substantiated by the emotional arousal dimension, which also exhibited a significant difference (p = .032). Closer scrutiny indicated that the 'Powerful' (p = .012) and 'Emotional' (p = .013) aspects were particularly distinct. Within this dimension, motivational videos (Powerful = 4.66 ± 0.15; Emotional = 4.11 ± 0.42) and body transformation videos (Powerful = 4.52 ± 0.19; Emotional = 4.42 ± 0.35) again emerged as prominent, emphasizing the students' strong connection with content that is both emotionally charged and empowering. Overall, these findings reveal a nuanced perspective of PE students towards TikTok videos, indicating a strong inclination towards content that is emotionally evocative and personally inspiring.

Table 3: Perceived Message Sensation Value by Video Type

MSV Dimensions and Items	ET	HFT	HFV	WC	NA	BT	MV	p-value
Novelty	2.71 ± 1.27	3.54 ± 0.48	3.19 ± 0.87	3.64 ± 1.15	3.47 ± 1.02	3.60 ± 1.04	3.89 ± 0.91	.156
Unique	2.67 ± 1.32	3.45 ± 0.55	3.12 ± 0.89	3.78 ± 1.12	3.21 ± 1.21	3.57 ± 1.12	3.98 ± 0.68	.068
Novel	3.01 ± 1.19	3.57 ± 0.58	3.21 ± 0.87	3.59 ± 1.24	3.74 ± 0.69	3.45 ± 1.24	3.51 ± 1.23	.077
Unusual	2.45 ± 1.02	3.61 ± 0.48	3.24 ± 0.69	3.54 ± 1.43	3.46 ± 0.99	3.79 ± 1.01	3.92 ± 0.52	.112
Dramatic Impact	3.50 ± 1.02	2.50 ± 1.09	2.69 ± 1.02	2.67 ± 1.04	3.02 ± 1.21	4.02 ± 0.79	4.15 ± 0.57	.043
Dramatic	2.89 ± 1.24	2.45 ± 1.14	3.14 ± 0.90	2.68 ± 1.12	2.24 ± 0.57	4.01 ± 0.64	4.12 ± 0.61	.039
Creative	3.34 ± 1.32	2.67 ± 1.26	3.31 ± 1.12	3.34 ± 1.05	3.21 ± 1.14	3.67 ± 1.12	4.20 ± 0.41	.058
Goosebumps	3.57 ± 1.16	2.12 ± 0.97	2.24 ± 1.01	2.41 ± 1.24	3.12 ± 1.43	4.35 ± 0.21	4.67 ± 0.15	.031
Intense	4.21 ± 0.23	2.10 ± 0.82	2.25 ± 1.03	2.14 ± 0.57	3.24 ± 1.44	4.11 ± 0.56	3.95 ± 0.61	.058
Graphic	3.98 ± 0.42	2.78 ± 1.11	2.57 ± 1.24	2.47 ± 1.18	3.62 ± 1.04	4.32 ± 0.54	3.82 ± 0.81	.069
Soundtrack	3.01 ± 0.89	2.89 ± 0.96	2.65 ± 1.15	2.96 ± 1.09	2.68 ± 0.45	3.56 ± 0.98	4.11 ± 0.43	.079
Emotional Arousal	3.63 ± 0.69	3.08 ± 0.79	2.82 ± 0.98	3.16 ± 0.97	3.18 ± 0.68	3.85 ± 1.08	4.01 ± 0.76	.032
Involving	4.19 ± 0.29	3.71 ± 0.52	2.60 ± 1.10	3.05 ± 1.15	2.23 ± 0.82	3.56 ± 1.01	3.98 ± 0.42	.051
Powerful	3.45 ± 0.97	3.11 ± 1.23	2.57 ± 1.21	2.67 ± 0.80	3.85 ± 0.56	4.52 ± 0.19	4.66 ± 0.15	.012
Emotional	3.19 ± 1.01	2.41 ± 0.92	2.35 ± 1.52	2.52 ± 0.99	2.14 ± 0.60	4.42 ± 0.35	4.11 ± 0.42	.013
Exciting	3.43 ± 1.22	3.12 ± 1.42	4.33 ± 0.46	4.01 ± 0.46	3.67 ± 0.86	3.88 ± 0.56	3.86 ± 0.81	.056
Arousing	3.55 ± 0.97	2.22 ± 1.56	2.21 ± 1.67	3.51 ± 0.79	2.79 ± 1.24	3.75 ± 0.85	3.71 ± 0.92	.065
Stimulating	3.78 ± 0.43	3.62 ± 0.51	2.43 ± 0.96	3.35 ± 0.90	3.76 ± 1.01	3.57 ± 1.02	3.72 ± 0.56	.059
Strong Visuals	3.77 ± 0.57	3.24 ± 1.15	3.12 ± 1.04	3.04 ± 0.96	3.57 ± 1.20	3.71 ± 0.92	4.05 ± 0.52	.068
Sound Effects	3.68 ± 0.58	3.21 ± 1.24	2.97 ± 1.11	3.12 ± 0.99	3.43 ± 1.12	3.41 ± 1.34	4.01 ± 0.47	.079

Note: ET = Exercise Tutorial, HFT = Health and Fitness Tips; HFV = Health and Fitness Vlogs; WC = Workout Challenge; NA = Nutrition Advice; BT = Body Transformation; MV = Motivational Videos

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DISCUSSION

Social media is progressively embedding itself as a core element within youth culture. Among various platforms, TikTok stands out as a popular avenue for self-expression and creative communication among the younger demographic. Recent studies also suggest that students are beginning to use TikTok for learning purposes (e.g., Garcia et al., 2022). Given the significant time students and young individuals spend on TikTok, assessing its potential as a source of knowledge is imperative. However, compared to other social media platforms like YouTube, the investigation into TikTok as a platform for informative content is still in its nascent stages. This research gap is particularly noticeable in the PE domain despite the abundance of exercise and fitness content available on the platform. Additionally, past studies have largely concentrated on the effects of watching videos tailored to the parameters of their research projects (e.g., Durau et al., 2022; McDonough et al., 2022). This approach often fails to consider the driving factors behind users' media consumption, the types of videos they are drawn to, and their underlying motivations for their viewership. Therefore, this study aims to bridge this research gap by exploring the uses and gratifications, preferences, engagement levels, and perceived MSV associated with different fitness videos among PE students in higher education.

Based on the analysis, it was found that PE students consume fitness videos on TikTok for entertainment purposes. This finding is anticipated considering the platform's well-established reputation as a source of entertainment. Seeking entertainment as the primary reason for media consumption on TikTok is also consistent with earlier UGT-based research (e.g., Falgoust et al., 2022). Some of these studies have even noted that entertainment gratification is often the sole significant motivation for students spending time on the platform (e.g., Yang & Ha, 2021). Nevertheless, the present study underscores that students also watch fitness videos for motivation and inspiration. This finding echoes the emphasis of UGT on personal identity and individual psychological factors influencing media choices (Zolkepli et al., 2018). In this case, watching fitness videos may inspire students to identify with fitness goals and motivate them to adopt healthier behaviors. The implication of this finding for theory and practice in PE is significant. It suggests that PE curricula can be enriched by integrating TikTok fitness videos to cater to students' entertainment needs while simultaneously promoting motivational and inspirational content. This dual approach could enhance student engagement by aligning educational content with their media consumption preferences. In terms of entertainment, Beni et al. (2017) noted that promoting fun and enjoyment contributes to a meaningful experience in PE. A systematic review also found that enjoyment increases physical activity and participation, and that enjoyment is a key factor in PE classes (Rodríguez Macías et al., 2021). Furthermore, by leveraging the motivational aspects of fitness videos, educators can foster a more positive attitude toward physical activity, potentially leading to increased participation and sustained healthy behaviors among students. This aligns with the broader educational goal of fostering lifelong fitness habits and highlights the practical value of incorporating popular digital platforms into PE

instruction in higher education. This strategy is a viable option considering the positive effects of using digital media in PE on every form of behavioral regulation (Mackenbrock & Kleinert, 2023).

As further indicated in this study, it is essential to acknowledge that the effectiveness of this strategy may vary depending on gender. Understanding these gender-specific motivations is crucial for tailoring educational content to engage both male and female PE students better. Joy et al. (2021) noted that student participation in PE activities is frequently influenced by their gender-related experiences. This study confirms that the motivations for watching PE content differ by gender as well. While male students watch fitness TikTok videos to inspire them in their physical endeavors, female students watch these videos as a means of escape. The literature on UGT indeed recognizes escapism as a prevalent motivation on TikTok (Bucknell Bossen & Kottasz, 2020) and social media (Miranda et al., 2023) in general. However, this study extends the existing research by demonstrating that it is more common among female students. This finding aligns with the broader discourse on fitspiration media and women's fitness communities, where social media fosters a collective drive toward personal and communal improvement (Toffoletti & Thorpe, 2021). Another notable gender difference is that seeking advice and guidance is a common motivation among female students when watching fitness TikTok videos, whereas social interaction tends to be more common among male students. These findings align with existing research indicating that females use social media for information and education (Ali et al., 2021), while males primarily use it for social interaction and building connections (Theophilou et al., 2023). Overall, this gender discrepancy in motivations for engaging with fitness content on TikTok underscores the need for a differentiated approach in PE. It suggests that educators and curriculum designers should consider incorporating varied strategies to cater to the distinct motivations of male and female students, especially if they decide to integrate TikTok as a tool. By acknowledging these gender differences, there is an opportunity to develop more inclusive PE curricula that address the physical aspects of fitness and consider the psychological and social factors that motivate students (Guerrero & Guerrero Puerta, 2023).

In terms of engagement levels, PE students are more inclined to watch fitness videos on TikTok from start to finish when they showcase body transformations, offer fitness tips and advice, and provide motivational content. From a video-based learning perspective, this finding suggests that incorporating similar elements into supplementary instructional materials may capture student interest and improve the appeal of PE programs (Lee & Chang, 2020). More critically, students tend to apply what they learn from specific types of TikTok content, such as exercise tutorials, fitness tips and advice, and nutrition education. This finding contradicts previous research, which suggests that young people tend to swipe past and disregard material related to physical activity, nutrition, and body image (Goodyear et al., 2019). One potential reason for this contradiction could be the difference in the context and presentation of the content, although this warrants further examination. Nevertheless, this is a promising finding from an educational perspective, as it highlights the potential of TikTok as a source of knowledge (Garcia et al., 2022). The use of these videos for practical application suggests that PE students are not only passively consuming content but are also actively seeking to implement the

knowledge gained in their fitness routines. This behavior aligns well with the principles of experiential learning, where PE students learn by doing and reflecting on their experiences (Cale & Harris, 2022). It also indicates a pedagogical shift towards self-directed learning (Lee, 2021), where PE students take the initiative to seek out information that is relevant and useful to their personal fitness goals. Educators can leverage this trend by curating or creating content that aligns with these interests, thereby enhancing the relevance and effectiveness of their instructional strategies. Furthermore, the integration of such content into PE curricula using a nanolearning format presents an innovative approach to adapting to these evolving learning styles. Nanolearning involves breaking down educational materials into bite-sized units that are easily digestible by learners (Yousef et al., 2023). In a pedagogical context of PE, this approach could mean creating concise TikTok-based fitness challenges, short instructional videos, or quick quizzes that align with the content students seek on platforms like TikTok.

Consistent with their media interaction and consumption, PE students find that the content and format features of body transformations and motivational videos elicit the highest MSV. This finding holds significance as a high level of MSV correlates with video viewership, viewer ratings, and user engagement (Paek et al., 2010). When a media elicits arousal, affective, and sensory responses, it tends to captivate the audience's attention and create a stronger connection between viewers and the content. From an instructional design perspective, harnessing the power of MSV in educational content opens up opportunities for PE teachers to develop more effective teaching materials. The practical implication is that incorporating MSV-enhanced content may have a positive impact on the teaching and learning experience in PE classrooms. For instance, integrating visually captivating body transformation and motivational video clips into PE lesson plans can exemplify how leveraging the power of MSV in educational content creation can enhance students' engagement and comprehension. This practical application of MSV theory underscores its potential to elevate the quality of PE instruction. From a theoretical standpoint, this integration aligns with the Limited Capacity Model (LCM) of cognitive processing (Lang, 2000), which suggests that individuals have limited cognitive resources available for processing information. By creating content that triggers sensory and affective responses, educators can engage students more efficiently and effectively within the constraints of their cognitive capacity. This LCM approach circles back to the concept of nanolearning by efficiently utilizing students' cognitive capacity.

Given the results of this study, there is an opportunity for PE teachers to use TikTok videos as supplemental materials in PE. However, although many young people are critically aware social media users (Goodyear et al., 2019), this practice requires teachers to curate the appropriate materials to ensure students watch relevant content. One classroom scenario is assigning students to watch specific TikTok fitness videos, such as exercise tutorials or workout challenges, and then discuss their observations and experiences in class. Another example is incorporating TikTok videos into a homework assignment where students select and follow a fitness routine from the platform, track their progress over a week, and reflect on their experience in a journal or presentation. Recognizing that Generation Z prefers to create rather

than solely consume content (Hill et al., 2024), teachers could also encourage students to produce their short-form fitness videos. This approach aligns with the recommended strategy for delivering online PE instruction, which involves having students maintain a photo or video journal documenting their physical activities (Killian et al., 2021). Such assignments resonate with students' social media outlook and provide an opportunity for them to creatively share their engagement and progress. This practice also connects seamlessly with flipped learning in a PE context, where students engage with content outside the classroom and use class time for active, collaborative tasks (Østerlie et al., 2022). Nevertheless, while leveraging TikTok's potential, it is important to be mindful of the negative effects of social media use, such as potential addiction, distractions from educational tasks, insufficient sleep, reduced face-to-face social interactions, and excessive use of social media for non-academic activities (Kolhar et al., 2021). Prior works have also cautioned against the uncritical embrace of technology, known as technopositivism, which can overlook these potential downsides. As noted by Ryan et al. (2020), there is a distinct danger that this focus on innovative technologies could overshadow the primary goal of enhancing learning. Educators should implement guidelines and provide critical media literacy education to help students navigate and use these social media platforms responsibly.

CONCLUSION

PE holds significant importance in schools. This course offers a variety of activities such as sports, dance, and exercises. PE programs also emphasize fitness training to enhance physical literacy and inspire an active lifestyle. This foundation is crucial for fostering an active lifestyle that students can carry into adulthood. Recently, the increasing integration of digital technologies in education has opened new avenues for enhancing the learning experience. Social media platforms, in particular, have gained popularity among younger demographics. TikTok, with its short-form video content, has become a favorite among young people and presents unique opportunities for PE educators to reach students in innovative ways. Unfortunately, other social media platforms are more studied, and the nanolearning format on TikTok warrants further investigation. Given the research gaps in the education and social media literature, this study explored PE students' interactions with and consumption of fitness content on TikTok. Based on the results, it was found that PE students primarily watch fitness videos for entertainment. They also seek motivation and inspiration, although more commonly among male students who also use them for social interaction. Conversely, female students watch these videos for escape and to seek advice and guidance. In terms of engagement, PE students tend to watch fitness videos on TikTok from start to finish when they feature body transformations, fitness tips and advice, and motivational content. They also tend to apply what they have learned from videos that provide exercise tutorials, fitness tips and advice, and nutrition education. When it comes to arousing emotions, engaging the senses, and eliciting affective responses, PE students find body transformations and motivational videos to be the most effective TikTok content.

These findings make several significant contributions to the literature on social media and its application in educational contexts, particularly on the use of TikTok within PE. By specifically

examining PE students' interactions with fitness content on the platform, this research provides new insights into the motivations and engagement patterns unique to this demographic. It advances the understanding of how short-form video platforms can be effectively utilized to enhance educational practices through a nanolearning approach, highlighting the potential of TikTok as a tool for both entertainment and educational purposes. Additionally, this study extends the application of the UGT and MSV in the context of PE, which demonstrates their relevance in analyzing digital content consumption and engagement. These findings also offer practical implications for educators and curriculum designers, suggesting strategies for integrating TikTok into PE curricula to enhance student engagement, motivation, and learning outcomes. Overall, this study illuminates how PE students utilize TikTok to deepen their educational experiences by underscoring diverse motivations, preferences, engagement, and the impact of fitness content. Doing so enriches the existing literature on social media usage, extends instructional practices in PE, and offers valuable empirical insights into digital media consumption and interaction.

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If you are looking for research collaborators, please do not hesitate to contact me at mbgarcia@feutech.edu.ph.

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