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Push Play to Stay Fit: Motivation in the Age of Digital Fitness

Research-in-progress

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Abstract

The advancements in digital technologies enable digital classes, such as live-streamed classes, to complement traditional fitness services. Although digital fitness classes are a far-reaching offer for sports-interested individuals, the participants' motivation compared to in-person classes may differ significantly. Information Systems (IS) research is needed to understand these socio-technical systems and the long-term motivation and engagement in digital fitness activities. This paper presents preliminary findings from a qualitative study with group class participants in Germany. The participants included both regular and occasional attendees who had experience with in-person and digital class formats. Based on an inductive, exploratory analysis approach, we develop a conceptual model demonstrating different motivation sources for fitness engagement. The model highlights the differences between the underlying motivation factors in online and in-person settings and creates a basis for future studies on technology-driven fitness solutions by offering insights for digital fitness class improvement.

Keywords Digital fitness, Motivation, Engagement, Group classes

1 Introduction

In the realm of fitness, group workouts have become increasingly popular in gyms. People often find group exercise enjoyable and tend to stay longer (Burke et al. 2006; Gottschall and Hastings 2023). Being a member of a sports group has been shown to promote higher levels of activity (Evans et al. 2019). This landscape of physical activity is undergoing digital transformation. Digital technologies increasingly influence sport and change how sporting activities are prepared and carried out (Birnstiel et al. 2024; Xiao et al. 2017). For instance, wearable sensors monitor physical activities and prevent injuries (Kovoor et al. 2024), while AI-based video tools assist in tactical decision-making (Konzag and Sølvk 2024). As a result, numerous other fitness services, such as digital workout classes, have been developed, in addition to traditional gym memberships (e.g., Holmes Place, LesMills). This transformation has been accelerated by the COVID-19 pandemic, which caused temporary closures of gyms and a shift to digital fitness formats. One example is the increase in subscribers to Peloton. This fitness company specialises in combining hardware (e.g., exercise bikes) with digital fitness content and became internationally known during the pandemic (Peloton 2025).

The popularity of digital fitness formats is reflected in consumer demand. After gym membership, online services such as apps were recently the most frequently paid fitness service in Germany (Statista Market Insights 2024). The primary advantages of digital fitness classes lie in their flexibility, which allows individuals to participate at any time and provides a high adaptability to personal schedules (Deloitte 2024). This motivates numerous fitness providers to offer digital fitness classes in addition to their in-person classes. Despite this trend, IS research has focused only on digital fitness to a limited extent (Xiao et al. 2017), neglecting how technology shapes human motivation and exercise behaviour. This article addresses the limited attention that digital fitness receives from IS research.

While group workouts have been shown to increase motivation and perceptions to maintain physical activity among participants in in-person classes (Graupensperger et al. 2019; Phillips et al. 2024), it remains unclear whether digital fitness classes can replicate these benefits and what factors motivate individuals in an online setting. The lack of social interaction and immediate group dynamics can diminish the motivational effects known from in-person group workouts (Evans et al. 2019; Graupensperger et al. 2019). Paradoxically, the flexibility and autonomy of digital formats can negatively impact motivation as social control and direct feedback are less common (Evans et al. 2019; Kettunen et al. 2019; Liu et al. 2024). These considerations suggest that the specific motivators in digital classes may differ from those in traditional in-person group workouts. Thus, we aim to investigate the underlying motivation factors of individuals using digital fitness classes and training behaviour. Therefore, we pose the following research question:

RQ: *How do factors (such as social interaction, feedback, and enjoyment) influence motivation to exercise in digital fitness classes compared to in-person group classes?*

To address this question, we also conducted interviews with group workout participants with digital classes experience. We inductively analysed our data set using grounded theory techniques (Gioia et al. 2013) and summarised our findings in a conceptual model. Overall, we enrich the IS scholarship by revealing key motivation and engagement factors within digital fitness activities. In doing so, we expand the IS discipline's understanding of digitalisation of sports and of how digital affordances shape user motivation and participation in socio-technical fitness systems. Our conceptual model illustrates the key motivation factors for in-person and digital fitness class participation, providing the groundwork for future theory development and empirical testing. From a practical perspective, our research identifies how to improve digital fitness platforms by making them more tailored to users' needs. By showing what motivates individuals, we offer guidance for developing user-centred fitness experiences, including emerging environments such as the metaverse.

2 Background

2.1 Digitalisation of Sports

It has long been recognised that physical activity is good for physical and mental health. Recent advances in digital technologies have led to a massive shift in the sports industry, which has traditionally been seen as conservative (Smith and Stewart 1999). The beginnings of digital fitness can be traced back to the 1980s, when the first fitness trackers and computer programs for training monitoring were developed. With the introduction of smartphones in the 2000s, digital fitness experienced a boom (Statista Market Insights 2024). Fitness technologies allow users to personalise training by tracking their activities, creating training plans, and documenting progress. Since then, there has been a

significant increase in the information technology (IT)-driven paradigm, with many people using fitness technologies such as mobile apps to supplement and enhance their workouts (Birnstiel et al. 2024). Thus, fitness technologies aim to support individuals' exercise behaviour (Liu et al. 2024).

Since the pandemic, digital fitness classes have also increased significantly. Many platforms offer live streams so users can participate in group workouts from home (Guo and Fussell 2022). Video platforms also allow people to flexibly complete workout routines from professional trainers without location restrictions (Liu 2021; Phillips et al. 2024). This development has become firmly established, with a large proportion of people who exercise not only taking part in online fitness classes during quarantine but also continuing to use the digital offerings after the gyms reopened (Daskalaki et al. 2022). To encourage fitness app usage, many apps incorporate gamification elements (Zhang et al. 2024). Gamification is the process of integrating game-like elements into various services and systems to create engaging and fun experiences similar to those found in games (Zhang et al. 2024). By incorporating features like points, gamification aims to motivate users to achieve goals or challenges, encourage user retention, and increase engagement (Liu et al. 2024).

Further, algorithms and artificial intelligence (AI) are increasingly used in fitness to create personalised training plans based on the user's specific goals and fitness level. Digital coaches are already being used for this purpose. A digital coach can identify the user's weaknesses and strengths, providing personalised feedback and showing the potential to enhance a user's motivation (Kettunen et al. 2019). Following these developments, in recent years, the context of sports has also been enriched by immersive technologies, gaining increasing importance in different areas of citizens' lives (Hoang et al. 2023). These emerging technologies contributed to the digitalisation of sports and fitness training (Chen and Li 2023; Todorov et al. 2019) and became recognised as a viable alternative to traditional exercise settings (Peng et al. 2022). In such an immersive environment, users can create their digital selves and interact and communicate with their avatars in virtual space (Park and Kim 2022; Smith et al. 2023). Immersive sports offerings often also include gamification elements that further deepen the experience and encourage long-term motivation. Overall, modern technologies, such as wearable sensors and virtual reality (VR) and augmented reality (AR) provide in-depth insights into sports behaviour and take physical health into account. This makes it possible to implement intelligent fitness solutions for indoor workouts (Farrokhi et al. 2021).

2.2 Motivation for Fitness Engagement

Practising physical activities induces a high degree of motivation and self-discipline. Further, it has significant impacts on overall psychological well-being and sports commitment. A central distinction is whether the motivation is intrinsic or extrinsic (Deci and Ryan 2000, 2012; Vallerand 2007). The most reported motives across different populations and activity forms include health, enjoyment, competence, appearance, social interaction, stress relief, and challenge (Calogiuri and Elliott 2017; Ingledew and Markland 2008). According to Self-Determination Theory (SDT), individuals' intrinsic motivation is the highest form of behavioural motivation, leading to a long-term commitment to a certain behaviour (Deci and Ryan 2012; Phillips et al. 2024). Following Liu et al. (2024), we understand fitness engagement as the psychological and behavioural involvement in fitness activities, including frequency, motivation, and continuity.

Beyond these individual motivational factors, social dynamics play a central role in sustaining motivation (Calogiuri and Elliott 2017). Participants reported higher satisfaction levels after group fitness classes in which they felt a stronger group cohesion than their average satisfaction level (Liu 2021; Phillips et al. 2024). Individual perceptions of the social aspects of fitness classes, such as group dynamics, may vary. Particularly motivating are the trainers and their positive energy, encouragement and supportive communication leading to higher motivation levels of the participants (Daskalaki et al. 2022; Liu 2021; Mouatt et al. 2020). This allows trainers to inspire the group and foster a strong sense of togetherness, which ultimately plays a crucial role in maintaining participants' commitment to the training and their motivation (Daskalaki et al. 2022; Trigueros et al. 2019). Besides group cohesion, another motivation factor for maintaining a certain behaviour lies in self-identification with a task (Caldwell et al. 2024; Phillips and More 2022). Sport-related identity is highly correlated with an integrated motivation described as seeing an activity as part of an individual's self-concept (Caldwell et al. 2024; Deci and Ryan 2012). Acting based on someone's self-perception initiates positive emotions, potentially leading to repeating this activity. These positive emotions are often complemented by experiencing enhanced performance, progression in sports, and individual improvement (Birnstiel et al. 2024).

While social mechanisms and a sport-related identity strengthen the sense of belonging and personal encouragement, affective experiences during sports activities determine whether these interactions

translate into lasting behavioural engagement. Thus, potential relationships between the evaluation of pleasure (i.e., affective valence) and enjoyment have become increasingly important (Hammer et al. 2022). Exercise-related effects and pleasure are central to several conceptual models, particularly when examining individual intrinsic motivation (Deci and Ryan 2012). According to these views, affective reactions during training determine future behaviours and long-term physical activity (Williams et al. 2012). In addition, the remembered affective evaluation of physical activity-related thoughts, such as intentions and future affective predictions, also plays a role (Ruby et al. 2011). This means that the remembered benefit or the associated retrospective evaluation of an experience predicts whether a behaviour will be repeated (Graupensperger et al. 2019). To influence human cognition, fitness classes can be structured so that participants leave with a positive affective memory. For example, a high level of group cohesion in the class can influence both the immediate affective experience and the memory of previous sessions. With strong theoretical support, the memory of enjoyment and affective valence after training are crucial factors that influence training motivation in the long term (Birnstiel et al. 2024; Graupensperger et al. 2019).

3 Research Design

To address our research question, we conducted a first wave of semi-structured interviews (I1–I11) with individuals who had experience of fitness classes. To ensure sufficient expertise, all participants were required to have experience with both in-person and digital fitness classes. We recruited participants through a private network and conducted the interviews in German. German participants were selected because our aim was to explore fitness engagement within a cultural context in which both in-person group classes and digital fitness classes are widespread. As the study comprised voluntary interviews on non-sensitive sports-related topics and did not involve the collection of identifiable data, formal ethics committee approval was not required¹. We followed a pre-structured interview guide but maintained flexibility to explore emerging and relevant topics in greater depth (Myers and Newman 2007). The interview guide comprised five sections addressing participants' (1) fitness journey and routine, (2) fitness motivation and sentiment, (3) digital fitness experience, (4) group fitness experience, and (5) other digital fitness formats. The interviews were transcribed and translated into English prior to analysis. Our sample included four women and seven men. The average duration of an interview was 26 minutes, with an average participant age of 26 years. Participants' fitness engagement varied between 1-2 times/week and 6 times/week. Appendix 1 provides an overview of the interview sample, and Appendix 2 provides the interview guide.

The interviews were conducted in German and English, with the German transcripts being translated with DeepL prior to analysis. The interview transcripts were aggregated and analysed using grounded theory techniques (Gioia et al., 2013). Given the evolving nature and the lack of theoretical explanations of digital fitness formats, an open, exploratory approach was deemed appropriate. Two researchers applied open and inductive coding techniques to the interview data. The resulting open codes were discussed, compared and assessed for their relevance to the research objective in regular meetings (Sarker et al., 2013). Next, relevant open codes were incorporated into first-order codes using Taguette². Subsequently, the first-order concepts were grouped into second-order themes. So far, the data structure we have obtained is further divided into the three aggregated dimensions: (1) motivations for choosing digital fitness, (2) the influence of social interaction, and (3) improving digital fitness experiences (see Appendix 3 for the data structure).

4 Preliminary Findings

4.1 Motivations for Choosing Digital Fitness

The findings reveal that the flexibility and convenience of the home environment can explain the motivation for joining digital fitness formats. Across all interviews, the freedom of individual training times and training directly from home are important intrinsic sources of motivation. Participating in digital classes at home provides a safe environment where participants feel more comfortable. This represents a crucial factor when feeling disturbed in a group environment. Thus, the opportunity to exercise without judgement is a key motivator. Digital fitness classes lower the barriers to regular physical activities, representing a crucial source for mental and physical health. It is preferred when in-person fitness classes are overcrowded, or individuals want to try new sports.

¹<https://www.dfg.de/en/research-funding/proposal-funding-process/faq/humanities-social-sciences#263154>

² <https://www.taguette.org>

“If I feel like doing sport and my class isn't taking place at the moment. Or maybe I want to try new things and I'm not in a class like that. I'm not enrolled in a yoga class, but sometimes I feel like doing yoga. And not having to leave the comfort of my house if necessary.” (I2)

We show a preference for online formats, particularly for class programmes focusing on more individual execution and relaxing practice. On the other hand, our interviewees prefer intensive training in live groups, as social interaction and mutual motivation promote training intensity and stamina.

4.2 The Influence of Social Interaction

The results show that the presence of other people, whether physical or digital, has a decisive influence on motivation and commitment to sport. The shared experience and meeting people promote commitment and are particularly motivating in real space. In addition, the social aspect is perceived as enriching, particularly due to the sense of community and the opportunity to meet the group outside of the training setting.

“Motivation is always greater when other people are there, whether digitally or in real life. I believe that there is greater motivation or commitment to meet physically somewhere.” (I1)

“The motivation is definitely training with like-minded people, getting to know people who share the same passion.” (I4)

In classes that do not take place regularly, there is often anonymity between participants, and in online settings, there is often no immediate presence of a trainer, which often makes it easier for participants to take breaks or skip repetitions because there is no one there to observe or correct the execution. This means that there is no direct feedback, and a high degree of self-discipline is required. This self-discipline is more evident in our interviews when the exercises are viewed positively. Otherwise, alternative exercises are used, particularly in digital classes. A trainer in in-person fitness classes corrects mistakes directly and creates a motivating atmosphere through their presence. Our results show that even a motivated trainer in front of the camera cannot replace physical proximity and direct intervention. Surprisingly, the trainer's expertise only appears relevant to participants in in-person classes. The lack of physical presence means that the feeling of perseverance and attention is often lost in the digital space.

“The commitment might not be as high because you're not seen, [...] you put in less effort. Maybe you skip a repetition because the others won't notice anyway, you can take a bit of a break without anyone noticing.” (I1)

4.3 Improving Digital Fitness Experiences

To improve digital class formats, emphasis should be placed on professional backgrounds and appropriate space for the trainer. It tends to be perceived as disturbing when traditional living spaces are visible. Therefore, participants highlight the importance of a high-quality feeling in their own home. It is also suggested that digital class should be individualised as much as possible, for example, through personalised invitations to the class. Nevertheless, our interviewees agree that setting personal goals and achieving personal milestones significantly influence participation in fitness class. The visibility of progress is an important motivation to continue training with commitment.

“It is the job as a trainer to motivate extrinsically, that's absolutely clear, [but] I think most important is that every person taking part in fitness classes defines some kind of goal.” (I4)

Further, our interview results show that immersive sports environments can be designed in VR that motivate participants to exercise and can mimic the atmosphere of a real fitness environment. This is particularly interesting for digital classes, as it deliberately avoids the home environment's distractions and creates a sports atmosphere. Our participants expressed the desire for aspects such as constant daylight and the simulation of a spacious room. Despite the challenges that current hardware poses for the applicability of intensive class programs, immersive environments offer an interesting dimension of social interaction, which also drives the fitness motivation of most individuals. In an immersive gym, other users' avatars could be visible, creating a sense of community and presence and representing a motivation factor.

“I also think that it could be really cool if you have the feeling that you are somewhere with people, that you have this social contact, but are still at home. Nobody sees me exhausted during the exercises, but I still have the feeling of interaction in a VR room with others.” (I3)

5 Discussion

In Figure 1, we have integrated our findings into a conceptual model for understanding the motivation factors for fitness engagement, which can form the basis for further theory development. All influencing factors, both in digital class formats and in-person fitness classes, are presented in a comparative manner, leading to engagement and long-term motivation.

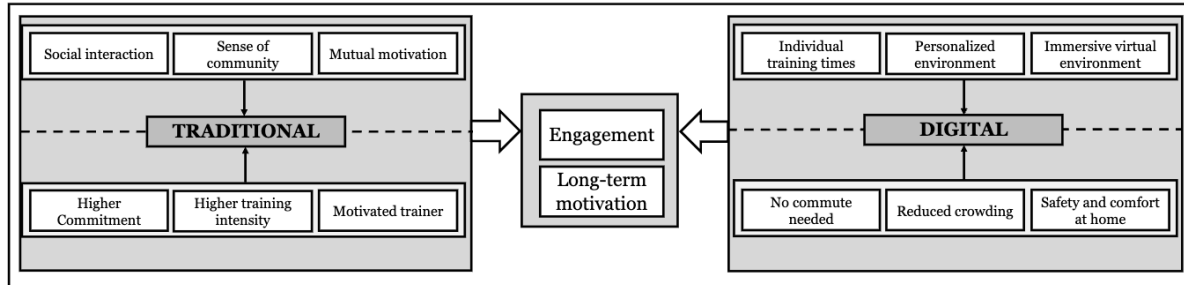


Figure 1: Motivators for Sustainable Fitness Engagement

Participating in digital classes has been particularly popular during the pandemic and has since established itself as a complement to in-person fitness classes (Guo and Fussell 2022). Our interviews highlight that digital fitness class are primarily appealing due to their perceived flexibility and convenience (Phillips et al. 2024). They reduce the barriers to regular fitness activities. Nevertheless, the findings reveal that no matter which class format is chosen, it is the social interaction that motivates participants to join regularly and have fun with fitness activities (Liu 2021; Phillips et al. 2024). While digital classes still allow limited social interaction, they often lack direct feedback and supervision from trainers, making self-discipline crucial. While participants see the trainer as very important in face-to-face contact, a professional online presence is more important than the actual qualification. Furthermore, our interviews show that positive experiences with class in the form of progress increase motivation (Birnstiel et al. 2024; Graupensperger et al. 2019). Likewise, a negative experience in the gym can affect only taking part in a digital class. Nevertheless, our findings highlight the importance of setting personal fitness goals, because taking steps towards the goal maintains motivation. In addition, immersive fitness environments offer new opportunities for social interaction and immersion (Chen and Li 2023; Todorov et al. 2019). The interest in such formats is revealed in the interviews. Features such as gym room simulation and constant daylight create an engaging atmosphere. Last, the use of avatars can create a kind of community feeling, which is less common in digital fitness classes (C. H. Smith et al., 2023). In sum, our findings contribute to a more nuanced understanding of how digital fitness platforms influence user motivation, interaction, and behaviour.

6 Conclusion and Next Steps

Our study understands the motivation factors and training behaviour of individuals participating in digital fitness classes. Thus, we conducted semi-structured interviews with individuals who have experience with fitness classes. The motivation for sustained fitness participation stems from various factors, such as flexibility, social connection, and positive learning experiences. Although digital classes have some limitations regarding these factors, we can also demonstrate the potential for immersive environments in sports. Digital technologies offer new potential, but also place demands on self-motivation and innovative design of social elements. Thus, we contribute to IS by extending knowledge on user motivation in digital fitness formats, a topic of societal relevance, but not theoretically adapted in the IS domain and by providing a conceptual model comparing motivation factors to derive digital affordances. Practically, we offer guidance for developing user-centred digital and immersive fitness experiences.

However, we acknowledge limitations regarding the small, German-based interview sample. Thus, we face limitations in generalizability. To expand this research, we extend our interview sample size through additional interviews. Building on these qualitative findings, we aim to statistically examine the factors derived from our results within the SDT framework. We then plan to conduct a comparative study to validate these factors and investigate motivational differences between digital fitness classes and VR fitness environments. The next steps will provide insights into what recognisable shift in the motivation factors for digital fitness class exists and which aspects of the shift are strengthened or transformed in VR-enabled fitness.

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Appendix 1: Overview of the Interview Sample

ID	Gender	Age	Job title	Physical activity	Online or in-Person preference	Interview duration
1	Male	28	Research associate	2-3x/week	in-person	35:48
2	Female	27	Research associate	4x/week	in-person	33:52
3	Female	27	Research associate	3-4x/week	online	35:19
4	Female	26	Personal trainer	6x/week	in-person	31:01
5	Male	23	Working student finance	2x/week	in-person	30:13
6	Male	26	API manager	3-4x/week	online	25:57
7	Female	25	HR consultant	2-3x/week	in-person	24:19
8	Male	29	Working student sales	2x/week	in-person	20:47
9	Male	24	DevOps engineer	3-5x/week	online	18:03
10	Male	31	Student assistant	1x/week	in-person	16:07
11	Male	22	Student	3x/week	in-person	16:09

Table 1. Interview Sample

Appendix 2: Overview of the Interview Guide

Introduction	<ol style="list-style-type: none"> 1. Please introduce yourself briefly in your own words. Where and in which position do you work? 2. How old are you? 3. How would you describe your gender? 4. What is your official job title?
Fitness journey and routine	<ol style="list-style-type: none"> 5. How would you describe your experience with digital fitness classes so far? 6. Do you also experience a sense of community in digital classes?
Fitness motivation and sentiment	<ol style="list-style-type: none"> 7. Have you noticed any differences in your progress or engagement when comparing digital classes to in-person ones? 8. What are the biggest lessons you've learned about staying motivated in your fitness journey? (ideas: trainer, music, routine, social interactions, personal aims etc)
Digital fitness experience	<ol style="list-style-type: none"> 9. What initially inspired you to join digital or online fitness programs? 10. What were your main reasons for choosing digital formats? 11. What keeps you motivated to continue or return to digital fitness classes?

	12. What improvements would make digital fitness classes more engaging or motivating? 13. What are your specific requirements of digital fitness?
Group fitness experience	14. Which are aspects of traditional group classes you miss in digital classes? And vice versa. If so, what are they? 15. How would your perfect fitness class (digital or traditional) look and feel?
Other digital fitness formats (e.g Metaverse)	16. What aspects did you find particularly appealing or challenging? 17. Would you be interested in trying out fitness or sports activities in the Metaverse? (Why or why not) 18. could you see the Metaverse as a supplement or a replacement for traditional fitness classes? (why or why not) 19. Do you think the Metaverse could foster a similar community to traditional fitness classes?
End	20. Is there anything else you would like to add about your experiences with digital or traditional fitness classes? 21. Anything you feel would be useful for others to know or understand?

Table 2. Interview Guide

Appendix 3: Coding of the Interview Data

1st order codes	2nd order themes	Dimensions
- Privacy at home with no external observation - Freedom to skip exercises as desired	Convenience and Flexibility	Motivations for Choosing Digital Fitness
- Flexibility at home - Engagement in activities without fixed class times		
- Calm classes preferred online - Using free YouTube videos	Preferences for Online Classes	
- Start during the pandemic - Overcrowded gym classes	Limitations of Traditional Fitness Environments	
- Increased commitment due to people - Obligation to attend classes due to peers - Sense of community in group workouts	Social Influence and Motivation	The Influence of Social Interaction
- Reduced attention in the online context - Less individual exertion online	Challenges in Online Workouts	
- VR can increase fun - VR can create a sports community - Training atmosphere can be enhanced through VR	Benefits of VR in Digital Fitness	Improving Digital Fitness Experiences
- High-quality workout experience at home - Significance of personal goals	Requirements of Digital Classes	

Table 3. Data Structure

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