



RESEARCH ARTICLE

The Relationship Between Fan Passion and Second Screen Usage: The Mediating Role of Fear of Missing Out

Fatih Çelik¹ , Erkan Faruk Şirin² 

Abstract

Second screen usage by fans while watching sports events on TV has been increasing in recent years. Although second screens are frequently used in two-way communication with fans and sports clubs, few studies have examined the subject from a theoretical perspective to understand it better. This study aims to determine whether the fear of missing out (FoMO [personal FoMO and social FoMO]) mediates the relationship between fan passion (harmonious passion and obsessive passion) and second screen usage through the dualistic model of passion (DMP) perspective. For that purpose, we conducted an online survey for data collection along with fans in Turkey and analysed 300 valid responses (79.3% male, aged 18-59 years) via structural equation modelling. The results showed that harmonious and obsessive passion had no direct effect on second screen usage. However, they had indirect effect on second screen usage through personal FoMO. In addition, personal FoMO had a prediction on second screen usage. As a result, this study highlights the importance of the second screen in the sports industry and the effect of fans' passion and FoMO levels on second screen usage from the DMP view. To our knowledge, the present study provides the first empirical evidence for the mediating role of FoMO in the relationship between fan passion and second screen use.

Keywords

Sports Fans, FoMO, Televised Viewing, Dualistic Model of Passion

Introduction

The second screen has recently become a prominent behavioural habit for TV viewers such as fans (Kim, Kim, Chung & Kim, 2021). For example, according to a recent study, the majority of adults (71%) in the United States regularly (often and sometimes) use social media on the smartphone as a second screen while watching TV (Statista, 2021a). In addition, just over two-thirds of users (68%) were looking up information about what they were watching on TV via the second screen (Statista, 2021b). It was also discovered that Gen Z (16 to 21 years) were far more inclined (95%) to utilize a second screen while watching TV (Statista, 2021c). On the other hand, a previous study has revealed that a large majority of sports consumers (79%) use a second screen to engage in social media, and two-thirds of

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users (66%) watch professional football (Cunningham & Eastin, 2017). Hence, second screens have become a habitual activity among fans (Mereu, 2021).

The rise of the internet and social media platforms has caused changes in fans' motivation and habits, those who participated as spectators in sports activities (Rubenking & Lewis, 2016). Today, social media has been an important part of the lives of sports fans all over the world (Manchanda, Arora & Sethi, 2022). On the other hand, in traditional viewership, fans watch sports competitions physically together with others - in the stadium, at home, or in an outdoor environment - causing the development of socialization and teamwork (Rubenking & Lewis, 2016). Previous research shows a significant decrease in the sense of socialization and companionship for those who watch sports events alone (Buffington, 2017). Fans have started to look for new ways to overcome this problem. Sports viewers now use social media platforms such as Twitter, Twitch, Facebook, and WhatsApp via mobile phones or computers as a second screen to reach sports-related content, socialize with other fans while alone, and feel like they are together (Rubenking & Lewis, 2016). The second screen is usually thought of as a way for fans to simultaneously watch live games and interact with other fans in a virtual world (Kim, Yang & Kim, 2021; Li, Naraine, Zhao & Li, 2021).

In recent years, research on the second screen usage while watching sports competitions has been increasing (Beuckels, Ye, Hudders & Cauberghe, 2021). Thus, scholars and practitioners need to understand and capture the second screen usage mechanism and contextual variables of fans throughout sports events. Literature suggests that when second screen usage is related to a sporting event, there is a positive relationship between second screen usage and enjoyment, while there is a negative relationship when unrelated (Rubenking & Lewis, 2016; Weimann-Saks, Ariel & Elishar-Malka, 2020). Thus, second screen usage can enhance and prevent sports fans' enjoyment (Li et al., 2021; Rubenking & Lewis, 2016). Moreover, previous research has shown that second screen engagement is positively correlated with perceived social presence (Brown-Devlin, Devlin, Billings & Brown, 2021; Hwang & Lim, 2015; Lim, Hwang, Kim & Biocca, 2015; Mereu, 2021), social capital, and perceived sociability (Brown-Devlin et al., 2021). On the other hand, the second screen usage by fans during sports events increases sports channel commitment (Hwang & Lim, 2015; Lim et al., 2015), commitment to a sporting event or favourite team (Mereu, 2021), and reinforcement of team identity (Larkin & Fink, 2016). However, a study revealed that people remember fewer details during the second screen usage process (Oviedo, Tornquist, Cameron & Chiappe, 2015). In other words, second screens can distract the attention of the sports consumer from the watched/followed activity (Rubenking & Lewis, 2016; Weimann-Saks et al., 2020).

As seen above, despite the prevalence of second screen usage in sports research, empirical studies are limited from a theoretical perspective. Some theories or models, such as the stimulus-organism-response (SOR) model (Vazquez, Wu, Nguyen, Kent, Gutierrez & Chen, 2020),

social presence theory (Hwang & Lim, 2015), uses and gratifications model (Gil de Zúñiga, Garcia-Perdomo & McGregor, 2015; Su & Chen, 2020), identity theory (Larkin & Fink, 2016), disposition theory (Smith, Pegoraro & Cruikshank, 2019), and decision theory (Voorveld & Viswanathan, 2014), have been used in previous research to explain second screen usage by sports consumers. However, expanding existing literature by applying different theoretical perspectives is crucial for comprehensively understanding the social phenomenon under investigation (Fang, 2021). Thus, the dualistic model of passion (DMP) (Vallerand et al., 2003) can be applied to predict sports consumers' second screen usage process. This model is widely preferred in sports research (Teixeira et al., 2021; Vallerand et al., 2008). Therefore, it is logical to expect that DMP will explain the second screen usage mechanism of the fans.

From a theoretical approach, DMP suggests that passion for an activity/event can occur in two ways: obsessive passion, which describes people's strong desire to participate in an activity (Bélanger, Lafrenière, Vallerand & Kruglanski, 2013), and harmonious passion, which describes the willingness to freely participate in one's favourite activity (Verner-Filion, Lafrenière & Vallerand, 2012). Moreover, considering that obsessive and harmonious fan passion indicates being a sports supporter, in the second screen usage research, such supporter levels can be regarded as a variable (Smith et al., 2019). Both obsessive and harmonious passions for the fans' teams represent a psychological factor that affects their emotional expectations (Verner-Filion et al., 2012). It is important to determine whether this psychological factor has any effect on second screen usage. At the same time, the fans watch the matches on TV because digital tools like second screens have brought a new perspective to the viewing experience by allowing fans to share their passions and interests more easily (Brown, 2015; Pagani & Mirabello, 2011).

Moreover, according to previous studies, second screen usage can be associated with fear of missing out (FoMO) (Conlin, Billings & Averset, 2016; JWT, 2012; Larkin & Fink, 2016; Radic, Ariza-Montes, Hernández-Perlines & Giorgi, 2020; Reinecke et al., 2017). FoMO, which emerged with the prevalence of social media, refers to a person concerned about being unable to participate in the developments around them and being absent from them (Casale & Gordon, 2020). According to Zhang, Jiménez, and Cicala (2020), FoMO has two dimensions, personal FoMO and social FoMO: The former is when people worry about missing out on experiences they wish for themselves, while the latter is concerned about missing out on experiences that other people enjoy (Zhang et al., 2020). Therefore, fans with FoMO can be expected to use a second screen to avoid missing out on important social experiences for them, their team, and even the communities they belong to (Hadlington & Murphy, 2018).

Especially considering the sharing and transferring information on social media, fans may be concerned about missing some events/developments while watching a live sports activity

at the stadium or at home. The role of FoMO in second screen usage needs to be further investigated in terms of sports (Beuckels et al., 2021; Larkin & Fink, 2016). Because FoMO is an important concept in sports consumers' behaviour, especially in the social media marketing context (Dinh & Lee). However, there have been limited empirical studies examining the effect of FoMO on sports media consumption, such as second screen usage (Kim, Lee & Kim, 2020; Larkin & Fink, 2016; Su & Chen, 2020). In second screen usage, it is expected to consider personal phenomena such as FoMO and offer more beneficial opportunities by closely researching the direct or indirect effects of personal differences on second screen usage (Shin, 2013).

As a result, examining the relationships between fan passion and second screen usage remains unexplored. In addition to the direct effect of fan passion on second screen usage, the indirect effect via mediating variables such as FoMO needs to be investigated. Because, for sports consumers, FoMO may be a psychological factor behind fan passion behaviour (Stead & Bibby, 2017). Also, such two-sided approaches may enable us to fully grasp the second screen usage (Beuckels et al., 2021). Thus, FoMO might act as a prospective mediator between fan passion and second screen usage.

Given the conceptual dimensions of DMP (harmonious passion and obsessive passion) and FoMO (personal FoMO and social FoMO), we put forward that fan passion and FoMO may show a positive relationship with second screen usage and that FoMO may mediate the link between fan passion and second screen usage. Based on the literature gaps discussed above, through the DMP perspective, we aim to explore the relationship between fan passion and second screen usage and FoMO's mediating role in this relationship. Along with this research, it is estimated that the literature gap can both be filled and can provide clubs and practitioners with an insight into the media consumption content they develop for fans.

The rest of this study is structured as follows. First, we introduce the conceptual framework, hypothesis development, and literature review. Second, we address our methodology as well as results and discussion. Finally, we conclude this study with implications, limitations, future directions, and a conclusion.

Conceptual Framework and Hypothesis Development

Second Screen Usage

Second screen is defined as the same media consumer's multiple exposures to different media types in real-time (Pilotta, Schultz, Drenik & Rist, 2004). It is a widespread new media practice that represents one element of the mix media phenomena and emphasizes the pervasiveness of social media and connectivity in the contemporary world (Gil de Zúñiga

et al., 2015). Though TV has been a social tool since the mass acceptance of the media (Ji & Raney, 2015), the second screens have further increased this sociality tool. The advent of mobile devices, in particular, pushed media consumers to participate in second screen usage, expressed as viewers' use of a second electronic device while watching TV (Beuckeles et al., 2021; Cunningham & Eastin, 2017). It may include a wide range of activities and habits, such as checking email while talking on the mobile phone or social media while watching a sports event on TV or at the stadium (Rubenking & Lewis, 2016; Pilotta et al., 2004).

This research used the concept of 'second screen usage'. The concept of the second screen can be used similarly to terms such as hybrid media (Chadwick, 2017), simultaneous media usage (Pilotta et al., 2004), simultaneous co-viewing (Pittman & Steiner, 2021), multiple media use (Robinson & Kalafatis, 2020), screen-stacking (Hale & Guan, 2015), media multi-tasking (Beuckels et al., 2021), multi-screening (Segijn, Voorveld & Smit, 2016), convergent media device (Mahoney & Tang, 2021), dual screen viewing (Sodeman & Gibson, 2015), social TV (Hwang & Lim, 2015), and multi/companion screen viewing (Christodoulou, Abdul-Hameed, Kondozi & Calic, 2016). This concept is a preferred topic in numerous studies related to our research topic (see Cunningham & Eastin, 2017; Sellitto & Phonthanakitithaworn, 2017; Weimann-Saks et al., 2020).

Second screen usage has recently become a vital study topic for sports communication/marketing researchers during sports competitions. With the rapid rise of social media platforms, fans want to share their hopes, excitement, joys, and sorrows with different people simultaneously during sports competitions (Hwang & Lim, 2015; Weimann-Saks et al., 2020). In this process, they send text messages or tweets to others, provide contact with their friends and followers, create a more emotional connection with the team, and enjoy a shared experience, as well as the sense of socialization and companionship (Cruz, Romão, Centieiro & Eduardo Dias, 2018; Sellitto & Phonthanakitithaworn, 2017; Wohn & Na, 2011). According to a study, the second screen usage in sports programs during TV watching is higher than in other programs such as news, commercials, and entertainment throughout the day (Voorveld & Viswanathan, 2014). The fact that the fans are active on social media via a second screen during sports competitions acts as a 'virtual watercooler'. The virtual watercooler refers to virtual environments where similar viewers can share their feelings, thoughts, and experiences among themselves, especially by using their mobile phones as a second screen and reducing the excitement and stress of the competition (Cuff, 2017; Smith & Smith, 2012).

Given the body of knowledge on second screen usage in sports, integrating motivations for watching sports events broadcast on TV and for using second communication screens is considered a need (Hwang & Lim, 2015). According to Gantz (1981), fans' motivations to watch sports events on TV are information, winning pleasure, fun, and spending time. Similarly, TV viewers' and sports fans' most basic second screen usage motivations are excitement, con-

venience, and information (Hwang & Lim, 2015; Serim, 2015). Also, Rubenking and Lewis (2016) added pleasure and identification with the team to these motivations. Information is one of the main objectives of both traditional and new media tools. Fans who highly identify with the team are likely particularly interested in the competition or information about the competition (Cunningham & Eastin, 2017). It is argued that the fans who watch the matches live in front of the TV have a significant amount of excitement and convenience from social media usage as the second screen. Prior research found there is a positive correlation between the level of fans' second screen usage and excitement and convenience (Smith et al., 2019). In brief, the second screen gives sports fans more entertainment and excitement, team identification, social connection, escapism, sports knowledge, expression of opinion, information seeking, and content verification (Rejikulmar, Jose, Mathew, Chacko & Asokan-Ajitha, 2021).

Research in the literature regarding second screen usage in sports is usually WhatsApp (Weimann-Saks et al., 2020), Snapchat (Billings, Qiao, Conlin & Nie, 2017), Facebook (Oviedo et al., 2015; Tornquist, Cameron & Chiappe, 2015; Rubenking & Lewis, 2016), and Twitter (Smith et al., 2019). With these platforms, the sports-watching experience is no more passive. Consequently, this research explains the second screen as the act of satisfying information, excitement, and convenience of fans about TV content simultaneously through platforms while watching sports-related content on TV.

In brief, second screens significantly contribute to the experience of viewing sports through sports lovers, staying in touch with friends, family, or other fans by sharing the notable moments of the ongoing competition. Rather than replacing the primary screen, the second screen has become a device that accompanies it and is used to complete the first screen experience (Cunningham & Eastin, 2017).

Fan Passion

According to Vallerand et al. (2004), passion is a strong tendency toward an activity that individuals like, feel essential, and devote time and energy to. It is considered a motivating factor in spending their time, effort, and emotions to achieve their goals (Wakefield, 2016). Since passion is the emotion that makes people's lives the most valuable, it represents the central features of people's identities (Vallerand, 2008). It also draws attention as an internal tendency resulting in external actions (Wakefield, 2016). The emergence of this intrinsic tendency is widespread among sports fans. The passion for the supporter, which gives importance to the identity of the individual and provides a robust relational connection with the teams considered the centre of the individual's identity, and thus covers the cognitive, affective, and evaluative aspects of the fan passion, is an important concept used in the sports industry (Das, Agarwal, Malhotra & Varshneya, 2019). Furthermore, fan passion is at the centre of one's personality and defines the person (Swimberghe, Astakhova & Wooldridge,

2014). According to Linden and Linden (2017), “passionate fans are the spine of any club” (p. 150). Fans who have passion are expected to be more fanatic and enthusiastic toward their teams (Choi, 2019).

The Dualistic Model of Passion

The DMP, which suggests that people tend to internalize the environmental elements they naturally consider important and make them a part of their identity, analyses passion in two factors (Vallerand, 2015). Vallerand et al. (2003) developed DMP in the form of obsessive and harmonious following activities. This DMP, which deals with individuals’ passion activities in terms of organizing and integrating them with other living spaces, is the first and only model in the passion literature and is of great importance in displaying individuals’ identities (Bélanger et al., 2013).

Obsessive passion, the first factor in the DMP, explains people’s desire to be strongly involved in the activity (Bélanger et al., 2013). It also causes decreased people’s well-being levels when they do not participate in activities (Carpentier, Mageau & Vallerand, 2012). Conversely, harmonious passion means a person wishes to freely participate in the event they love (Verner-Filion et al., 2012). It notes the wish to be strongly involved in any activity and is the result of internalization that individuals consider activity important of their own free will (Marsh, Vallerand, Lafrenière, Parker, Morin, et al., 2013). Moreover, Vallerand et al. (2008) suggested that “harmonious passion was positively associated with adaptive behaviours (e.g., celebrating the team’s victory), whereas obsessive passion was positively associated with maladaptive behaviours (e.g., risking losing one’s job to go to a game)” (p. 1279).

This DMP is mainly used in research on sports and fans. Obsessive passion is fans’ intense and uncontrollable impulse to participate in sports events (Bélanger et al., 2013). This results in the fans feeling a stronger loyalty to their team (Das et al., 2019; Vallerand et al., 2003). On the contrary, harmonious passion is linked to autonomous internalization. That is to say, the activity does not control the individual, as it is a genuine desire to perform it without feeling any responsibility or internal pressure (Teixeira et al., 2021). This internalization occurs when the fans consider the activity important to them without any conditions. Such internalization creates the motivation to participate voluntarily in events such as second screen usage by watching TV matches. It provides a sense of volunteering and personal support in maintaining the event (Vallerand et al., 2003). To summarize, harmonious passion reflects the internalization of the desired self-identity, while obsessive passion demonstrates the internalization of the desired social identity (Das et al., 2019). Both forms of passion are present in a person’s personality, but obsessive passion seems to take up a disproportionate amount of space (Teixeira et al., 2021).

Sports fans nowadays have adopted new technologies as an integral part of their passionate for sports and teams (Octagon, 2013). Especially with the development of the internet and

social media, supporter habits have further changed. Today, the second screens have brought new insight into the sports game-watching experience by letting fans share and connect with others through social networks and mobile devices (Pagani & Mirabello, 2011). While watching live matches on TV, fans look for opportunities to support their team, cheer and even express their sadness, joy, and passion (Brown, 2015). Second screen technology has given fans this opportunity. Social media's real-time interaction feature and sports fan passion are channelled through actions such as messaging, tweets, and hashtags, especially during competition moments, via second screens (O'Hallarn, Shapiro, Wittkower, Ridinger & Hambrick, 2019). Given that tribalism is one of the core elements of passion (Stavros, Meng, Westberg & Farrelly, 2014), it is likely that fans will use a second screen to interact with their teammates during a live sports event as a sign of tribalism. Hence, fans may not feel satisfied when they cannot interact with their team and other fans on social media, especially in line with the passion they experience during live matches (Stander, 2018).

Harmonious passion explains the fan's strong desire to participate in sport-related events with their free will through tools such as the second screen (Marsh et al., 2013). Participation in second screen activities with a harmonious passion occupies an essential but non-pressing place in one's identity. Therefore, it is expected that the person will have few problems with other activities in his life (Vallerand et al., 2008). Harmonious passion can lead the fans to participate freely in events such as the second screen usage during the competition, as the fans are identified with the activity in question. Nevertheless, obsessive passion results from uncontrolled internalization and emerges as an uncontrollable desire to join in a popular activity (such as watching TV matches) (Vallerand, 2010). Wakefield (2016) has suggested that it may be possible to argue that harmonious passion and obsessive passion significantly predict fans' media behaviour, such as second screen usage. Building on the arguments mentioned above and considering the two conceptual dimensions of DMP (harmonious passion and obsessive passion), we suggest the following hypotheses:

H₁. The harmonious passionate of the fans positively predicts their second screen usage.

H₂. The obsessive passionate of the fans positively predicts their second screen usage.

Fear of Missing Out

Today, people are worried about missing developments due to their exposure to much information and their ability to consume all information sources (Larkin & Fink, 2016). FoMO is characterized by a need to remain constantly connected with what others are experiencing. It is also defined as a persistent anxiety that others may be enjoying gratifying experiences from which one is missing (Przybylski, Muruyama, DeHaan & Gladwell, 2013). FoMO is also anxious to miss an experience that can help one achieves a personal or social goal. It is caused by an individual's desire to satisfy his curiosity, satisfaction with discovering something new and seeking innovation and diversity (Zhang et al., 2020).

Although FoMO is a behaviour that could be observed among people before social media, it has become widespread with social media. Considering psychological requirement satisfaction, general mood, and life satisfaction, FoMO plays a vital role in individuals online on social networking sites (Przybylski et al., 2013). Moreover, Zhang et al. (2020) associated FoMO with the self. They focused on evaluating FoMO as two dimensions, personal FoMO and social FoMO, as in the self-concept theory (Rosenberg, 1979). “Personal FoMO refers to the FoMO on experiences that can maintain or enhance the private self. Social FoMO relates to the FoMO on experiences that can maintain or enhance the public self” (Zhang et al., 2020: p. 1630).

Although social media users experience some negative experiences like abuse, addiction, and social media fatigue with their excessive use, they feel pressured to enter social media due to FoMO. The primary reason is that consumers get FoMO when they see current material from brands, friends, family, news organizations, sports teams, or team players they support (Bright & Logan, 2018). Especially for viewers who follow a sports game on TV as the primary screen with higher-up of pleasure, FoMO can cause fans’ social media use as the second screen.

Given the relationships between fan social anxiety and second screen usage, while watching a live sports event on TV (Becker, Alzahabi & Hopwood, 2013), it is likely that FoMO is primarily a driver of second screen usage by fans (Seddon, Law, Adams & Simmons, 2021). Although watching sports competitions leads to pleasure for the fans, fluctuations in this feeling may occur in situations such as the opponent’s team taking the lead or scoring goals, the player in the team being out of the game by seeing a red card, and the pleasure leading to anxiety or tension (Peterson & Raney, 2008). Moreover, nowadays, the fans have a feeling of FoMO for the news and developments of the team they support as another type of social anxiety or fear during the competition. In other words, the fans’ efforts to follow their teams through the second screen during the competition are motivated by FoMO (Larkin & Fink, 2016). In this process, part of the pleasure of watching sports competitions against TV encourages the ability to talk to friends about TV content and participate in an interactive chat, especially through social media (Conlin et al., 2016).

According to Su and Chen (2020), FoMO, social success, and social media are the foremost factors affecting TV and mobile phone consumption (as the second screen). Users of mobile phones may be concerned about losing out on what is occurring on social media and TV, particularly during live broadcasts such as sports games. Audiences mostly try obtaining information about the competition through two screens by watching the match on social media and TV via smartphones to ‘lag’ from their teammates due to FoMO’s (Su & Chen, 2020). Prior studies have suggested there is a positive relationship between FoMO and excessive smartphone use (Wegmann, Oberst, Stodt & Brand, 2017; Zhou, 2019). Therefore, fans with

high FoMO may overuse their smartphones as a second screen to satisfy their desire to stay connected while watching live sports events on TV (Rozgonjuk, Sindermann, Elhai & Montag, 2020; Servidio, 2021). In addition, they have not only FoMO about experiences other fans enjoy (social FoMO) but also about experiences they wish for themselves (personal FoMO) (Zhang et al., 2020). Personal FoMO may relate to the experiences of fans in their inner world, which can lead to second screen usage. Also, the social connection that sports consumers form through the second screen emphasizes anxiety about not being included in a larger group (i.e., social FoMO) and the need to create or develop a sense of connection (Ji, 2019). The desire to belong to their team and team members and the fear of not being included in this group, in another saying, social FoMO plays an important role in social media consumption against TV on the second screen (Kang, Cui & Son, 2019). As a result, previously studies suggested that higher FoMO levels of fans may lead them to be more inclined toward second screen usage (Conlin et al., 2016; Przybylski et al., 2013; Radic et al., 2020; Reinecke et al., 2017). Taking into account the two conceptual dimensions of FoMO (personal FoMO and social FoMO), we expect FoMO to be a significant antecedent of second screen usage:

H₃. Personal FoMO positively predicts fans' second screen usage.

H₄. Social FoMO positively predicts fans' second screen usage.

The mediating role of fear of missing out

According to recent studies (Beyens, Frison & Eggermont, 2016; Dempsey, O'Brien, Tihamiyu & Elhai, 2019; Wegmann et al., 2017; Zhang et al., 2020), FoMO has been proposed as a mediator variable in the usage of internet communication apps. Previous studies have revealed that FoMO mediates the relationship between social media interactions and individual differences such as needs, emotions, motivations (Alt, 2015; Przybylski et al., 2013; Wegmann et al., 2017).

From the sports industry perspective, the dedication of the person's heart, mind, body, and soul to a team shows 'fan passion' (Vallerand et al., 2003). When fan passion is assessed along with second screen usage and FoMO, a fan passionate about his team feels powerful positive feelings about the clubs and their athletics (heart). He/she often thinks about several ways of the team (mind), like his team, his athletics, his team's competitions and statistics, and other fans or viewers' opinions about the team or the competition. It also takes considerable time and energy to follow, watch, listen, participate in competitions, and especially read or interact with those shared on social media (body). According to other areas, he/she prioritizes the team in his life and believes that life is incomplete without activity or that FoMO lives in the team and competition (spirit) (Wakefield, 2016).

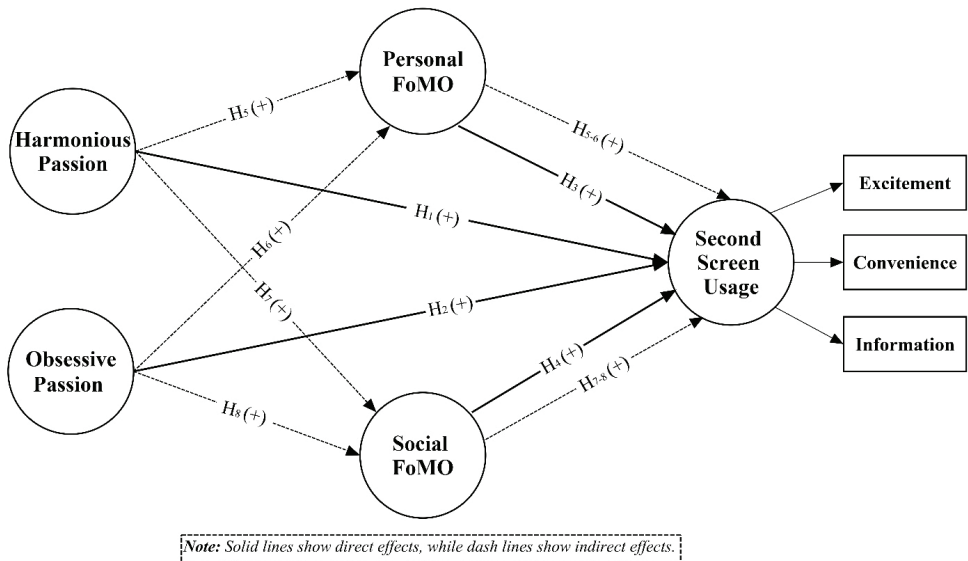


Figure 1. Proposed research model

Based on the above narrative, we expected that FoMO might be a mediating variable in the research model proposed in this study (see Fig. 1). Moreover, sports teams can encourage sports consumers to use a second screen through FoMO, leveraging the passion that exists among loyal fan to provide meaningful and rewarding experiences and greater satisfaction (Stander, 2018). Besides, fans with passion may participate in social networking sites as a second screen while watching the activity they are passionate about, such as watching matches due to internal possibilities like FoMO. This can hamper the individual from entirely focusing on the fundamental (primary) duty he/she is passionate about (Vallerand et al., 2008). Considering that fans with high FoMO levels have more impulses to control their social media accounts while watching a match against TV as a second screen (Abel, Buff & Burr, 2016 Conlin et al., 2016; Radic et al., 2020), this impulsivity situation can be considered an underlying issue personality trait. It can be said that the positive relationship between impulsivity and obsessive passion is much stronger than harmonious passion (Orosz, Zsila, Vallerand & Böthe, 2018). The idea of controlling social media as a second screen to alleviate FoMO levels of fans during the competition is parallel to obsessive behaviour patterns (Richter, 2018). We, hence, considered FoMO as a mediator in this research. As a result, we might hypothesize that not only harmonious and obsessive passion will directly predict second screen usage of fans' but also indirectly through personal FoMO and social FoMO. Based on the present arguments given here, we propose the following hypotheses:

H₅. Personal FoMO mediates the relationship between harmonious passion and second screen usage.

*H*₆. Personal FoMO mediates the relationship between obsessive passion and second screen usage.

*H*₇. Social FoMO mediates the relationship between harmonious passion and second screen usage.

*H*₈. Social FoMO mediates the relationship between obsessive passion and second screen usage.

Method

Research Context

Over the past decade, social networking sites have led to the growth of fan engagement. The literature claimed that collectivist nations such as Turkey were more actively involved with social media and engaged in group-oriented behaviours (e.g., fan engagement) (Akdevelioglu & Kara, 2020; Hartzel, Marley & Spangler, 2016). Recent reports claim that Turkey has 69 million social media users and 78 million mobile phone users (Kemp, 2022). In addition, while the average daily social media usage time was 3 hours, the mobile phone was 4.24 hours, and TV watching was 3.31 hours. Moreover, about a quarter (27%) of people in Turkey have used social media because of following sports, and the type of social media accounts followed have been 27.5% of sports people and teams.

Furthermore, a previous study suggested that Turkey's second screen usage rate was 94%, which was above the world average (82%). In addition, mobile phones had the most preferred (76%) second screen (IAB Turkey, 2017). Based on these ratios and given that the main reason TV viewers use a second screen is to get the latest/up-to-date information about sports (Hwang & Lim, 2015), it is reasonable to conduct a study on second screen usage in the context of sports consumers in Turkey. Consequently, we conducted this research in the context of Turkey. We collected data from fans of teams in Turkey, such as Galatasaray, Fenerbahçe, Beşiktaş, Trabzonspor, and others, because these teams were the most prominent sports clubs in terms of the number of fans, championships, and followers on their social media accounts (Çelik, 2019; Üçüncüoğlu, 2021).

Participants and Data Collection

We used the cross-sectional survey design in the current study. Surveys may be used to estimate behaviour and assist a researcher in identifying variables and building values and relationships (Newsted, Huff, and Munro, 1998). We collected the data through an online survey. With the growing popularity of the Internet and social networking sites, online surveys have become increasingly popular and are faster and less expensive (Ferreira & Fernandes, 2021).

The online survey was performed using the Google Forms platform, containing a knowledge sheet, permission form, and self-report questions to determine suitability (Throuvala et al., 2021). To eliminate social desirability response bias and ascertain the data collection from just those respondents engaged in the research, survey participation was voluntary and anonymous (Dhir, Talwar, Kaur, Budhiraja, & Islam, 2021).

Online survey data were collected through social media platforms (WhatsApp, Twitter, Facebook, etc.) by sharing survey links (URLs) with fans. Data collection was conducted between February 10-25, 2020 and 451 fans participated. For this study, the survey could only be completed by participating fans who met the following inclusion criteria: (a) being at least 18 years old, (b) must live in Turkey, and (c) having at least once so far used the second screen while watching the sports event on TV. In total, 300 individuals who met the inclusion as mentioned above criteria completed the online survey.

Most of the participants in this study, which focused on using social media as the second screen during the sports competition, were male fans (79.3%). The mean age of the respondents was 25.02 ($SD = 7.15$; 18 to 59 age range). Additionally, 59.3% of the fans in the research had an undergraduate degree level, 25% had an associate degree, 7.7% had high school level, 7.7% were high school graduates, and 3% had primary education. Moreover, the average monthly income of the fans was \$389.75 ($SD = 449.48$, \$0-\$3,267.01), and 36.3% supported Galatasaray, 25% Trabzonspor, 18.3% Fenerbahçe, 17.3% Beşiktaş and 3% supported other teams.

Measurements

The online survey was divided into two sections: One with a questionnaire covering all scales and 36 self-reporting items, and the other with some demographic information (age, gender, income, education, and supported team). Each scale used in the survey was collected from different studies and brought together. For this study, we used a 7-type Likert scale with the items “strongly disagree” (1) and “strongly agree” (7).

Second screen usage scale: For the second screen usage scale in sports, we preferred the scale conducted by Hwang and Lim (2015) due to its high validity-reliability. The second screen usage scale formed three factors: excitement, convenience, and information. While the excitement factor consisted of four items ($M = 4.813$, $SD = 1.520$, Cronbach's $\alpha = .880$), convenience comprised six items ($M = 5.454$, $SD = 1.329$, Cronbach's $\alpha = .940$). Finally, information factors had four items ($M = 5.338$, $SD = 1.287$, Cronbach's $\alpha = .880$).

Fear of missing out scale: For the FoMO scale, the scale developed by Zhang (2018), which has a high reliability-validity and is the most current FoMO scale, was adapted and modified to the fans and used in this research. This scale developed two sub-dimensions:

Personal FoMO comprising five items ($M = 4.621$, $SD = 1.787$, Cronbach's $\alpha = .940$) and social FoMO comprising four items ($M = 2.441$, $SD = 1.741$, Cronbach's $\alpha = .950$). Unlike the FoMO scale (Przybylski et al., 2013), which is the first in the literature and widely used in the studies, another reason for using this scale is that it is treated as “fear of missing an experience that can help an individual achieve a personal or social goal by removing all boundaries of FoMO”.

Fan passion scale: Finally, the fan passion scale, another variable in the research model, developed by Vallerand et al. (2003), is widely employed in the literature and has high validity-reliability. This scale is the basis for measuring how a person's attachment to the heart, body, mind, and spirit affects his passion for an activity or object (Wakefield, 2016). The passion scale consists of a total of two factors: seven obsessive passion items ($M = 4.256$, $SD = 1.804$, Cronbach's $\alpha = .940$) and six items of harmonious passion ($M = 4.989$, $SD = 1.635$, Cronbach's $\alpha = .940$).

In this study, the translation of items in these scales from English to Turkish was carried out by two academicians who are English experts. These translations were then translated back to English by two different language experts. It was compared with the items in the original scales, and language experts made the necessary corrections. Moreover, to check the content validity of the scales, the items were revised by two academicians who specialized in sports and communication. After implementing a few experts' recommendations, we conducted a pilot study with 100 participants through an online survey. In the pilot data's statistical analysis, Cronbach's alpha scores for all scales were above .74. It is understood that these rates are sufficient for the reliability of the scales. Alternatively, it has been revealed that the item-total correlation coefficient of the scales is appropriate ($> .30$) and has an item discrimination feature.

Data Analysis

We used structural equation modelling (SEM) to predict the proposed model in this study since our model has offered multivariate relationships of the antecedents and outcomes (Hair, Black, Babin & Anderson, 2019). To test the research model, we utilized the two-stage method suggested by Anderson and Gerbing (1988). In the first stage, we investigated the measurement model to ensure the reliability and validity of the scales used. Then in the second stage, we analysed the structural model to test the hypothesis.

Moreover, we conducted a mediation analysis to determine whether personal and social FoMO indirectly affected the relationship between harmonious and obsessive passion and second screen usage. We used the modern mediation testing approach, which is common in the literature and criticizes the traditional mediation analysis (Hayes, 2009; MacKinnon, 2008; Rucker, Preacher, Tormala & Petty, 2011). Moreover, no classification was made for the

emerging mediation (such as partial or full mediation); only the indirect effect was examined to determine whether it was statistically significant. We performed bootstrapping analysis using 5,000 subsamples (Hair et al., 2019). We look at the lower limit confidence interval (LLCI) and upper limit confidence interval (ULCI) values in the 95% confidence range to ascertain if the indirect effect is significant after the bootstrap test; these values should not cover zero (0) (Hayes, 2018; Rucker et al., 2011). Finally, in this study, we performed all statistical analyses using SPSS 26.0 and Mplus 8.3 package programs.

Results

Descriptive Statistics

We also evaluated mean descriptive statistics, standard deviation, standard error with skewness, and kurtosis to provide the normality of the data. The optimum range for skewness and kurtosis is +1.5 to -1.5 (Tabachnick and Fidell, 2013), and both for all constructs were determined to be within this range. Table 1 presents the descriptive statistics of the variables' items.

Table 1
Descriptive Statistics

Variables	Mean	Standard Error	Standard Deviation	Skewness	Kurtosis
Second Screen Usage	5.202	.072	1.243	-.837	.291
Excitement	4.813	.079	1.520	-.511	-.643
Convenience	5.454	.077	1.329	-.944	.268
Information	5.338	.074	1.287	-.982	.830
Personal FoMO	4.621	.103	1.787	-.486	-.809
Social FoMO	2.441	.101	1.741	1.059	-.069
Obsessive Passion	4.256	.104	1.804	-.099	-1.184
Harmonious Passion	4.989	.094	1.635	-.726	-.399

Measurement Model Analysis

We conducted confirmatory factor analysis (CFA) through the Mplus 8.3 package program to check the measurement model (Muthén & Muthén, 2017). Because of the high inter-correlations between the three sub-dimensions of second screen usage, we examined it with an alternative, second-order factor model (Throuvala et al., 2021). We analysed the second-order structure with other first-order structures in line with the recommendations of Awang (2012). Hair et al. (2019) suggest that the scale should be specified for the second-order construct like the first-order constructs.

The proposed structural model had acceptable goodness of fit values (χ^2 [581, $N = 300$] = 1607.407; $p < .001$; $\chi^2/df = 2.76$; CFI = .90; TLI = .90; SRMR = .06; RMSEA = .08) in the literature (Hu and Bentler, 1999; MacCallum, Browne & Sugawara, 1996). It was revealed

that the factor loadings of all structures were significant ($p < .001$) and above the threshold value of .600 (ranging from .657 to .981) in the literature (Hair et al., 2019). Constructs names, scale items, and standardized factor loadings are shown in Table 2.

Table 2
Scale Reliability and Validity of Constructs

Constructs	Item	Factor Loading*	Cronbach's Alpha	CR	AVE
Second Screen Usage			.950	.910	.776
	EXC	.680			
	CON	.950			
	INF	.981			
Excitement			.880	.882	.654
	EXC1	.671			
	EXC2	.737			
	EXC3	.900			
	EXC4	.902			
Convenience			.940	.938	.718
	CON1	.737			
	CON2	.834			
	CON3	.895			
	CON4	.908			
	CON5	.878			
	CON6	.819			
Information			.880	.878	.645
	INF1	.877			
	INF2	.832			
	INF3	.694			
	INF4	.799			
Personal FoMO			.940	.939	.755
	PER1	.864			
	PER2	.894			
	PER3	.919			
	PER4	.853			
	PER5	.812			
Social FoMO			.950	.954	.840
	SOC1	.854			
	SOC2	.925			
	SOC3	.954			
	SOC4	.929			
Obsessive Passion			.940	.939	.690

Constructs	Item	Factor Loading*	Cronbach's Alpha	CR	AVE
Obsessive Passion	OP1	.836			
	OP2	.907			
	OP3	.914			
	OP4	.779			
	OP5	.851			
	OP6	.828			
	OP7	.675			
Harmonious Passion			.940	.938	.719
Harmonious Passion	HP1	.869			
	HP2	.871			
	HP3	.889			
	HP4	.895			
	HP5	.883			
	HP6	.657			

Notes: All items are measured using a 7-point Likert scale (1) “strongly disagree” - (7) “strongly agree”). Also, all items = $p < .001$.

* standardized values.

Abbreviations: EXC = Excitement, CON = Convenience, INF = Information, PER = Personal FoMO, SOC = Social FoMO, OP = Obsessive passion, HP = Harmonious passion

We analysed the proposed model for internal consistency reliability, convergent, and discriminant validity. First, for internal consistency, Cronbach’s alpha and composite reliability (CR) values are expected to be above .70 for all constructs (Hair et al., 2019). This study found that the internal consistency reliability of the constructs is high (Table 2). Second, factor loadings, CR, and average variance extracted (AVE) were estimated for convergent validity. Provided convergent validity, a threshold value of factor loadings, CR, and AVE should be greater than .60, .70, and .50, respectively (Fornell & Larcker, 1981; Hair et al., 2019). Our results showed that all item factor loadings, CR, and AVE were well above the recommended threshold, affirming the convergent validity of the measurement constructs (see Table 2).

Lastly, to ensure the discriminant validity of constructs, AVE’s square root values for all factors are higher than the correlation value between the factors, the correlation between the constructs is below .80, and maximum shared squared variance (MSV) values are lower than AVE (Fornell & Larcker, 1981; Kline, 2016). Table 3 shows that AVE’s square root values for all components were larger than the correlation value between the variables, the correlation between the constructs is below .80, and MSV values were lower than AVE, demonstrating that discriminant validity was provided.

Table 3
Correlations and Discriminant Validity

Factors	MSV	1	2	3	4	5
1.SSU	.120	(.881)				
2.PER	.498	.347**	(.869)			
3.SOC	.003	-.160*	.170*	(.916)		
4.OP	.615	.191*	.706**	.049	(.831)	
5.HP	.615	.266**	.694**	-.054	.784**	(.848)

Notes: Values in parentheses indicate the square root of the AVE.

Significance level: * $p < 0.01$, ** $p < 0.001$.

Abbreviations: SSU = Second screen usage, PER = Personal FoMO, SOC = Social FoMO, OP = Obsessive passion, HP = Harmonious passion

Structural Model Analysis

After analysing the measurement model, research hypotheses were tested on the latent variable structural model, in which obsessive and harmonious passion are exogenous variables with personal FoMO, social FoMO, and second screen usage endogenous variables. The goodness of fit values of the structural model created to test the hypotheses showed an acceptable level in the literature ($\chi^2 [582, N = 300] = 1623.674; p < .001; \chi^2/df = 2.79; CFI = .90; TLI = .90; SRMR = .07; RMSEA = .08$). Furthermore, the estimation power of the model was analysed using R^2 values, which harmonious and obsessive passion explain 55% variance in personal FoMO. In contrast, ones explain only 3% variance in social FoMO. These four constructs together explained 20.3% variance in second screen usage. Table 4 also contains the analysis results.

According to the analysis findings, it was found that harmonious passion had no significant direct prediction on second screen usage ($\beta = .083, p > .05$). Similarly, obsessive passion also had no significant direct prediction on second screen usage ($\beta = -.183, p > .05$). Therefore, $H_{1,2}$ was not supported. Furthermore, personal FoMO significantly positively predicted second screen usage ($\beta = .449, p < .01$), and thus H_3 was supported. However, social FoMO had a significant negative prediction on second screen usage ($\beta = -.212, p < .01$) but is in the opposite direction expected, hence H_4 was not supported.

Table 4
Results of the Direct, Indirect and Total Effects, and Hypothesis Testing

Direct Effect	β	S.E.	p	95% Confidence Interval		Hypothesis supported
				LLCI	ULCI	
HP→SSU	.083	.106	.432			H_1 not supported
OP→SSU	-.183	.105	.080			H_2 not supported
PER→SSU	.449	.086	.000			H_3 supported
SOC→SSU	-.212	.057	.000			H_4 not supported*
Indirect Effect						
HP→PER→SSU	.160	.054	.003	.054	.265	H_5 supported

<i>Indirect Effect</i>	β	S.E.	<i>p</i>			Hypothesis supported
OP→PER→SSU	.192	.067	.004	.061	.324	H ₆ supported
HP→SOC→SSU	.050	.028	.074	-.005	.105	H ₇ not supported
OP→SOC→SSU	-.051	.028	.064	-.105	.003	H ₈ not supported
Total Effect						
HP→SSU	.293	.141	.037	-.017	.569	
OP→SSU	-.042	.131	.751	-.299	.215	

Note. Bootstrap = 5000

* H₄ was statistically significant but in the opposite direction than expected.

Abbreviations: SSU = Second screen usage, PER = Personal FoMO, SOC = Social FoMO, OP = Obsessive passion, HP = Harmonious passion, LLCI = lower limit confidence interval, ULCI = upper limit confidence interval

We conducted a mediation test to determine whether personal and social FoMO indirectly affects harmonious and obsessive passion and second screen usage. The analysis results are presented in Table 4. First, personal FoMO had a significant indirect effect from harmonious ($\beta = .160$; LLCI = .054 – ULCI = .265) and obsessive passion ($\beta = .192$; LLCI = .067- ULCI = .004) to second screen usage. These results provide that H_{5,6} was supported. However, the indirect links from harmonious ($\beta = .050$; LLCI = -.005 – ULCI = .105) and obsessive passion ($\beta = .051$; LLCI = -.105 – ULCI = .003) to second screen usage via social FoMO were not statistically significant. Hence, H_{7,8} was not supported.

Discussion

This research aimed to investigate the mediating role of FoMO in the relationship between fan passion and second screen usage motivations of fans based on the theoretical basis of DMP with an SEM study and expand existing literature. Nowadays, fans who are particularly passionate about their team have a high degree of need to share their passion with others and interact with them using second screens via mobile devices and social media platforms during competition moments due to several internal impulses such as FoMO (Pagani & Mirabello, 2011; Vallerand et al., 2008). Social media, in particular, has enabled fans to connect, share, collaborate, and interact with other fans or their teams (Hussein, Mohamed & Kais, 2021).

We obtained several important results in this study. First, the study examined whether the harmonious and obsessive passion of the fans predicts second screen usage. Unexpectedly, harmonious and obsessive passion had no significant direct prediction on the second screen usage of fans. Considering that there is a feeling softer than obsessive passion, harmonious passion seems familiar for fans to use their mobile phones and interact with their teams and others as a second screen usage against the TV, which is the primary screen at the moment of sports competition (Das et al., 2019; Wakefield, 2016). However, no such relationship has been revealed directly in current research. Nevertheless, obsessive passion fans tend to follow the teams they constantly support and be distracted under all circumstances (Carpentier et al.,

2012; Vallerand et al., 2008). Also, the fact that the fans focus more on the sports competition broadcast on TV and keep their eyes on the competition may explain the significant relationship between obsessive passion and second screen usage. It is suggested that fans who are both harmonious and obsessive passionate remember more details on a single screen rather than a dual screen (Oviedo et al., 2015). This is why it can be said that passionate fans do not directly prefer second screen usage during sports competition moments because TV content is more clearly understood.

Second, the relationships between fans' FoMO levels and second screen usage during the sports competition were examined. Unsurprisingly, we found a significant relationship between FoMO and second screen usage. It can be stated that the personal FoMO experience of the fans is an important antecedent variable in second screen usage. Due to personal FoMO, fans may check-in on social media via second screens to adapt to the live sports broadcast on TV (Hutchinson, 2013). This result aligns with previous research findings (Abel et al., 2016; Conlin et al., 2016; JWT, 2012; Kang et al., 2019; Larkin & Fink, 2016; Su & Chen, 2020). On the other hand, current literature suggests that fans follow information about the match and team on social media via cell phone, both as a primary screen and as a second screen, to 'stay away' from their teammates due to their social FoMO (Hadlington & Murphy, 2018; Kang et al., 2019; Reinecke et al., 2017; Su & Chen, 2020). However, we found that the significant relationship between social FoMO and second screen usage was negative. The reason for the opposite direction relationship may be: If a fan who experiences social FoMO feelings is more susceptible to being influenced by one's peer groups in terms of the team or match-related behaviour, they might react more negatively to second screen usage and so are more likely to avoid such usage (Chinchanachokchai & De Gregorio, 2020). As we stated during the hypothesis development process, we expected a positive relationship. Moreover, if empirical studies reveal different or unexpected results in the relationships between variables, researchers should consider that there may be important mediators and moderators in these relationships (Fardouly et al., 2022). Therefore, future research should incorporate potential variables that mediate or moderate the relationship between social FoMO and second screen usage into their research models. Consequently, for as long as social media via second screens is important to how fans talk about TV, FoMO will keep impacting what fans watch and how (Maxwell, Tefertiller & Morris, 2021).

Finally, based on the DMP, we examined the mediation role of FoMO between relationship fan passion and second screen usage. Accordingly, it has been revealed that personal FoMO mediated the relationship of both harmonious and obsessive passion on fans' second screen usage. The direct, not significant relationship between fan passion and second screen usage has turned into a significant relationship with the indirect effect of personal FoMO. Controlling social media using second screens to alleviate FoMO levels during sports competition is like obsessive behaviour patterns (Richter, 2018), and impulsivity has a stronger

positive relationship, especially with obsessive passion (Orosz et al., 2018). This significant indirect effect of personal FoMO is consistent with its conclusion that it mediates the relationship between needs, emotions, motivations, and social media interactions (Alt, 2015; Przybylski et al., 2013; Wegmann et al., 2017). However, this study did not reveal the mediating role of social FoMO in the relationship between the sub-dimensions of fan passion and second screen usage. During the sports competition, passionate fans prefer second screen usage in line with personal FoMO levels, while social FoMO does not play an active role in this relationship. Although socialization is a need for fans as it is for other individuals, it can be said that fans who go through social FoMO while watching the sports competition likely do not prefer the use of second screens to avoid missing important moments in the competition. At this point, it seems that the desire not to miss exciting moments and positions in the competition precludes socialization.

Practical Implications

The findings of the current research also ensure some notable practical contributions. First, today, the viewers' use of more than one screen is an important development that sports teams and marketers should consider (Rubenking & Lewis, 2016). Fans no longer not only watch sports content but also wonder what other viewers are saying, interacting with them. In other words, they exhibit social behaviour, from passivity to activity. Today's active social behaviour while watching sports competitions on TV mainly occurs on social media using the second screen. Therefore, it is inevitable for clubs to use their official social media accounts during sports competitions effectively. Especially considering the second screen usage motivations such as excitement, convenience, and information, club officials must prepare social media content in this direction. While entertaining content causes more interaction, conveying instant information about the team or competition to the fans will enable the accounts to gain more followers. In addition, marketers should now prepare their ad content considering the second and even third screens. In a marketing world dominated by an understanding of "you must be where your target audiences are", second screens offer an important and alternative opportunity. As a result, the second screen will move in the same direction as technology increases day by day. With this process, it is possible to say that the second screen opportunities and applications will also be carried on smartwatches, glasses, TV, and game consoles. Therefore, it is predicted that the second screen will be incomplete for users in the future, and the usage of at least three screens will become widespread in the world of marketing, communication, and sports (IAB Turkey, 2017).

Second, social media usage has increased gradually in modern society through the first and second screens. Thus, practitioners should realize the relationship between FoMO and social media usage. The importance of understanding this relationship will help marketers' efforts to interact with consumers and better understand them. Given the growing importance

of FoMO in marketing, it is inevitable for FoMO marketers to influence market segmentation decisions and social media strategy (Abel et al., 2016). Moreover, fans with high FoMO levels have more social and interaction needs from the club's perspective. To meet these requirements, fans use more technology to be 'up to date' on social networking sites (Rozgonjuk, Elhai, Ryan & Scott, 2019). In this process, clubs should create more effective and impressive social media content and emphasize their interaction to reach their supporters and meet their needs.

Finally, since fans with a high passion for the fan are at the centre of commercial and public discourse on sports and fun, club social media experts are encouraged to direct this passion to well-designed social media campaigns (Wakefield, 2016). Sports managers and clubs should care about DMP, which, as far as we know, is the first and only model in the passion literature. Furthermore, it may be more suitable to evaluate separately the obsessive, passionate fans who feel obliged to watch or follow the club's competitions they support and the harmonious passionate fans who want to participate in their favourite activities by the club managers. As harmonious passionate fans care more about their identity, club managers should often try to reach out to them with more personal messages and content. On the other hand, considering that obsessive fan passion cares about social identity very much, managers should prepare and share their content for fan groups that show more social identity at this point. Club managers are also expected to diversify their second screen activities and efforts to reach these fans, especially considering that harmonious passionate fans use the second screen freely during the game viewing. Furthermore, because obsessive passionate fans have hatred and hostility toward their rivals, managers should convey the goal and spirit of 'fair-play', which is valid among the clubs, especially to the fans. In conclusion, sports practitioners should not forget that FoMO as a possible driver behind harmonious and obsessive passion behaviour, is a factor that increases the frequency of use of social networking sites by fans.

Limitations and Future Directions

Despite all these contributions to the current work, there were also some limitations. First, this study's assessment tools were specific to the simultaneous participation of fans watching a sports event on TV on social media as a second screen. Therefore, information about people who did not participate in social media as a second screen was not collected during sports competitions. Future research should be able to work in the home, stadium, or mass areas (cafe, etc.) and should address the subject in terms of personal or social space by distinguishing the second screen usage behaviour while watching sports competitions. Second, TV was accepted as the primary screen in the research, while social media was adopted as the second screen. Sometimes there can be changes in this situation. The primary screen can be social media, while the second screen can be TV. This is a matter that needs to be investigated. Third, this study's female fans were not sufficiently represented, as they only comprised

about 20% of the participants. Previous sports research suggested that females and males have different sports consumption motivations (James & Ridinger, 2002). Therefore, future research might perform a study in which female fans' participation is higher.

Fourthly, we collected data through self-report scales using a convenience sampling technique in this study. Thus, the representativeness of the sample was limited. Also, we cannot make causal implications on empirical findings due to the cross-sectional nature of the current study design. Future research might use a more representative sample and experimental or longitudinal design. Fifth, we did not examine the relationship between fan passion and FoMO separately, although it is in the same model. To our knowledge, there is no empirical study based on this relationship. Future research may examine this relationship. Another limitation was that the Covid-19 pandemic had not yet emerged in Turkey when the data were collected in this study. Considering that the pandemic can significantly impact fans' attitudes, motivations, and behaviour, future research should be conducted to examine this effect of the pandemic. Lastly, we based this study on the theoretical nature of DMP. Future researchers can examine the model proposed in this study with a different theoretical perspective, such as social comparison (Festinger, 1954) and the technology acceptance model (Davis, 1989).

Conclusion

Despite all its previously mentioned limitations, this research ensures the first empirical evidence on the mediating role of FoMO in the relationship between fan passion and second screen usage. Based on theoretical insights from studies on sports media consumers, this study expands the framework of second screen usage via the DMP perspective. While harmonious and obsessive passionate fans do not feel pressured to use a second screen during the competition, with increased levels of personal FoMO, they may feel the pressure and obligation to control information about the club they support. Especially personal FoMO might now be considered in the literature as an important concept explaining the relationship of passion behaviour in the sport with second screen usage.

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Appendix

Appendix A

List of model variables and items

Variables	Items
Excitement (EXC)* (Hwang & Lim, 2015)	
EXC1	I enjoy reading the reactions of other viewers, which peps me up.
EXC2	I enjoy using social networking sites (SNSs) while watching sports competitions on TV.
EXC3	it is exciting to interact with others on SNSs while watching televised sports competitions.
EXC4	it is fun to interact with others on SNSs while watching televised sports competitions.
Convenience (CON)* (Hwang & Lim, 2015)	
CON1	SNSs allow me to find what I want to know with less effort.
CON2	using SNSs is the most effective way to receive answers to game-related questions.
CON3	it is easy to receive game-related information through SNSs.
CON4	SNSs enable me to stay up to date with game-related info.
CON5	transmitting and sharing game-related information is fast and expedient with SNSs.
CON6	sharing game-related information on SNSs saves me a lot of time.
Information (INF)* (Hwang & Lim, 2015)	
INF1	SNSs help me to obtain more knowledge about sports games.
INF2	SNSs provide helpful information about athletes and their performances in sports games.
INF3	SNSs increase my understanding of televised sports.
INF4	SNSs help me to receive specific information about a situation while watching the game.
Personal FoMO (PER) (Zhang et al., 2020)	
PER1	I feel anxious when I cannot attend the competition with my team.
PER2	When I miss my team's competitions, I feel incomplete compared to other fans.
PER3	I feel anxious when I miss them because my team competitions are important and fun.
PER4	I feel upset when I miss the competition of my team for reasons I do not have.
PER5	I feel regret when I miss the competition of my team.
Social FoMO (SOC) (Zhang et al., 2020)	
SOC1	I think that the social group I took part in when I missed the competition of my team saw me as a minor person.
SOC2	When I miss my team's competitions, I think I am unworthy of my social group.
SOC3	When I miss the competition of my team, I feel excluded by my social group.
SOC4	I feel that I have been ignored/forgotten by my social group when I miss my team's competitions.
Obsessive Passion (OP) (Valle- rand et al., 2003)	
OP1	I cannot live without following my team.
OP2	My passion for my team is so strong that I cannot overcome it
OP3	I cannot imagine living a life without following my team.
OP4	I am emotionally attached to following my team.

OP5	I have trouble controlling my need to follow my team.
OP6	I have almost obsessive feelings about following my team.
OP7	My mood depends on my ability to follow my team.
Harmonious Passion (HP) (Vallerand et al., 2003)	
HP1	Various experiences that I had while following my team allow me to enjoy.
HP2	Discovering new things about my team makes me appreciate it more.
HP3	My team is compatible with my favourite features.
HP4	My team is compatible with other activities in my life.
HP5	My team makes me experience unforgettable memories.
HP6	I still cannot control my ambition while following my team.

Note: *The items in these factors have preliminary statements: "I use social networking sites (SNSs) while watching sports competitions/ events on TV because..".

