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Time-shifting vs. appointment viewing: the role of fear of missing out within TV consumption behaviors

Abstract

The current study employed a national sample in order to investigate the phenomenon of fear-of-missing-out (FoMO), the apprehension associated with the fear that other people are having a pleasurable experience that one is not a part of. The current study investigated the role that FoMO plays in TV viewing habits, particularly binge-watching and the consumption of one-time megaevents. Results indicated that FoMO predicts the pace at which people choose to watch TV, social media use as it relates to TV, and whether they are likely to watch some one-time TV programs—such as sporting events like the Super Bowl.

Keywords

Fear-of-missing-out, uses and gratifications, megaevents, binge-watching

1. Introduction

Coined in a mediated sense just a few years ago, the concept of fear-of-missing-out (FoMO) (Cohen, 2013; Przybylski, Murayama, DeHaan & Gladwell, 2013) involves feeling that missing a party, program, concert, class, or some other event could result in being excluded from a cultural conversation or seminal moment. This term is typically tied to technology and related to technology-based behavior (Bright, Kleiser & Grau, 2015), as people feel compelled to constantly check Internet-enabled devices to ensure that the experience they are having is not inferior to the one they could be having at some other place and point in time. Lack of access to social media information leads to FoMO (Fox & Moreland, 2015), where people are increasingly second-guessing the choices they make on how to spend their time (Cheever, Rosen, Carrier & Chavez, 2014).

However, social media is inherently integrated with virtually all other forms of modern existence, potentially tying FoMO to other forms of media behaviors, such as when and how much a person watches television. Whereas previously people would watch hours of television per day in relatively synchronous manners, those hours are now divided increasingly asynchronously, allowing for much more viewer choice as to what they watch and when they watch it. The result is the growing

phenomenon of binge-watching (Spak, 2013), the act of consuming multiple episodes of the same TV show in one sitting (“Netflix declares,” 2013, para. 2). When binge-watching, the *content* of the narrative does not shift, yet the *amount* of narrative one watches can be rapidly accelerated when compared to past media release models. Increased access to television content means that people also have increased power over what they watch and how they choose to watch it. New and varying mediums allow viewers to consume huge amounts of content via binge-watching—which may be prompted by FoMO.

The current study investigates whether FoMO can have an effect on television watching and associated behaviors—particularly the desire to binge-watch episodes of a TV show, or the urge to watch megaevents (like the Super Bowl). The focus will not only be on *which media* people opt to consume in light of potential FoMO motivations, but also the *pace of media consumption* people choose to adopt once those programs are selected. The potential relationship between the concepts of FoMO and binge-watching becomes intuitive when considering the dramatic differences that can occur when someone opts to consume television content. FoMO could explain why just 1% of Americans used digital video recorders (DVR’s) to time-shift the Super Bowl, yet some dramatic serialized programs are time-shifted more than 50% of the time (Kondoljy, 2015). Moreover, the desire to be a part of a cultural conversation can lead to people to binge-watch in order to “catch up” or merely to be informed about a program which holds caché within social circles. Different genres of television content may be consumed in different ways at different paces by people with differing levels of FoMO. In sum, FoMO may apply to media consumption behaviors surrounding TV series or a one-time media events, yet could do so in different manners, at least partly because of varying social media behaviors resulting from TV consumption.

One-hundred sixty individuals from a national convenience sample responded to the current survey. Self-determination theory predicts that “all individuals have natural, innate, and constructive tendencies to develop an ever more elaborate and unified sense of self” (Ryan & Deci, 2002: 5), and the current study investigates whether the motivation to stay relevant within a social group drives FoMO within television-watching choices—including binge-watching—in order for a person to attempt to develop a more unified self through the complete, fulfilling social interaction associated with communal television watching. This research queries whether these psychological underpinnings of FoMO explain media consumption behaviors.

2. Literature Review

2.1. Fear of Missing Out (FoMO)

Przybylski et al. (2013) define FoMO as a “pervasive apprehension that others might be having rewarding experiences from which one is absent,” meaning that FoMO “is characterized by the desire to stay continually connected with what others are doing” (p. 1841). The experience of FoMO is perpetuated by the virtual explosion of real-time sharing that social media tools, smart phones, and tablets provide. These tools supply a constant opportunity to check on what else one might be missing out on—not just in a given moment, but also in a broader, overall context. While these technological conveniences enable more frequent social engagement, they simultaneously reinforce an increased reliance on mediated communication.

As this technology becomes more socially pervasive, it becomes increasingly socially acceptable to allow this continually accessible connection to influence decisions, moods, and emotions (Turkle, 2011). One recent study (Cheever et al., 2014) examined the negative effects of wireless mobile devices on college students, identifying the anxiety participants experienced when they did not have access to their wireless mobile device as a component

of FoMO. Additionally, Fox and Moreland (2015) found that, despite the negative psychological and relational experiences often felt by using the social network site Facebook, participants often felt pressured to continue using Facebook because of FoMO; availability and accessibility of the social mediated technology motivates users to check the social network site regularly to combat such feelings.

2.2. Theoretical underpinnings: self-determination theory and uses and gratifications

Recent empirical investigation into FoMO (Przybylski et al., 2013) suggest using self-determination theory (Deci & Ryan, 2008; Ryan & Deci, 2002) as a theoretical backbone for understanding why people choose to modify behaviors based on their FoMO. Self-determination theory (SDT), rooted in empirical psychology research, contends that “people have a primary propensity to forge interconnections among aspects of their own psyches as well as other individuals and groups in their social worlds” (Ryan & Deci, 2002: 5), meaning that people are not only driven to be part of a group, but also to have strong relationships as part of a peer group (see Ryan & Deci, 2002). Advances in technology (e.g., social media, content streaming services) change the realm of necessary interconnectedness, providing the opportunity for the global village predicted by McLuhan (2011). Thus, it is not only their immediate social group that an individual feels motivated to be a part, but rather a larger, cultural conversation about popular culture and media.

Core understanding of SDT centers on individual motivations for actions, distinguishing between autonomous and controlled motivation (Deci & Ryan, 2008). Autonomous motivation exists when the individual is motivated by intrinsic, self-oriented goals, resulting in an individual being satisfied with their actions independent of the opinions of others (Deci & Ryan, 2008). Conversely, controlled motivation exists when an individual is motivated by external forces, such as “contingencies of reward or punishment” (Deci & Ryan, 2008: 182). Controlled motivation can also take place when an individual seeks to avoid social shame, self-esteem, or the approval of others (Deci & Ryan, 2008). FoMO may be a result of the pressures of controlled motivations, as the pressure to act and think in congruence with a larger social group resulting from controlled motivation, individuals may fear that they are missing out on opportunities and experiences when they are not part of a cultural conversation about media.

In addition to motivations, SDT focuses on needs satisfaction (Ryan & Deci, 2002). Three primary needs exist within SDT: (a) competence, (b) relatedness, and (c) autonomy, which collectively “provide the basis for categorizing aspects of the environment as supportive versus antagonistic to integrated and vital human functioning” (Ryan & Deci, 2002: 6). The need for relatedness may be most strongly tied to FoMO, as the fear of missing out on experiences and social connection can motivate people to make decisions based on timing more than personal desires.

Combining these principles of SDT to the uses and gratifications approach is useful, as U&G primarily aims to investigate, explain, and understand fundamental psychological needs underlying an individual’s reason for choosing a specific medium (Rubin, 1994). The uses and gratifications approach explains media use as a cyclical function, where a combination of individual needs and socio-psychological factors create certain expectations, thereby affecting patterns of media use (Katz, Blumler, & Gurevitch, 1974). These patterns of media use eventually yield gratifications, which then revert to influence individual needs (Katz, Blumler, & Gurevitch, 1973). A central assumption of the uses and gratifications perspective is that audience members proactively seek a medium in an attempt to satisfy a specific need or gratification (Blumler & Katz, 1974), and also that media enjoyment (a gratification obtained) is influenced by many different social and psychological factors (Katz, Blumler, & Gurevitch, 1974; Ruggiero, 2000; Rubin, 2002).

There are three basic tenets of the uses and gratifications (Katz, Blumler, & Gurevitch, 1973) approach: (a) that audience members were goal-directed in their behavior, (b) audience members were active in their use of media, and (c) audience members were aware of their needs and they selected specific media to gratify those needs. This means that individuals manipulate and actively use a particular form of media to meet a specific need—a concept in direct opposition to the idea that media can overpower and influence individual choices on what to consume. Moreover, the uses and gratifications approach assumed that the media served equally as agents of diversion and entertainment as they do of information and influence (Katz, Gurevitch, & Haas, 1973).

There are four primary categories of the uses and gratifications typology of needs (Katz, Gurevitch, & Haas, 1973; Rubin, 1983): (a) diversion (escape, emotional release, entertainment); (b) personal relationships (companionship, social utility); (c) personal identity (personal reference, reality exploration, value reinforcement); and (d) surveillance (acquiring news and information). These needs typologies explain that exposure to media is dependent upon the gratification an individual seeks to obtain from that particular medium (Katz, Blumler, & Gurevitch, 1974). Blumler and Katz's (1974) research also showed that each individual can use the same media to communicate the same message, but for different reasons and to satisfy a variety of needs. They explored the links between the uses, social roles, and the psychological needs of the individuals whose media use they studied (Blumler & Katz, 1974).

Many of the early uses and gratification studies dealt with the uses and gratifications of television use (e.g., Finn & Gorr, 1988; Katz, Gurevitch, & Haas, 1973; Rubin, 1983), and the majority of these studies examined how different expectations, motivations, and socio-psychological factors lead to different media use (Rubin, 1983). The 21st Century ushered in a new age of communication technology as use of the Internet as a communication tool grew; changing the way people interact with one another, and also with the world around them. Communication studies in the late 1990s and the early 2000s applied previous uses and gratifications research on audiences, their motivations sought, and gratifications obtained through watching television programs to the newest communication technology – the Internet (e.g., Ruggiero, 2000; Vincent & Basil, 1997). The widespread adoption of computer-mediated communication and its integration into people's everyday lives revived the importance of the uses and gratifications approach (Ruggiero, 2000). Because the uses and gratifications approach is often used to examine what motivates individuals to participate in certain media use behaviors, and what inherent needs a specific behavior may fulfill (Blumler & Katz, 1974), it is logical to utilize the uses and gratifications approach as one of the supportive theoretical bases of exploring FoMO.

2.3. Serialized programs and binge-watching

In past decades, television-based FoMO would likely unfold in people missing other social events to stay home and watch a program in the single time it was being offered (without possibility of taping and/or time-shifting). One could then conclude that FoMO would be lessened in regard to serialized dramas, reality shows, and situation comedies, as there has never been a wider range of TV consumption possibilities. However, evidence suggests that the inverse may be occurring, as FoMO may be prompting people to consume TV at a rapid pace to stay part of a culturally relevant conversation. A trifurcation becomes possible in which people watch programs either (a) *week-by-week*: as soon as they air to ensure that no one consumes or discusses content before they do, (b) *half-and-half*: binge-watching to “catch up” with the current narrative so one can belatedly join the cultural conversation, or (c) *accelerated*: binge-watching all of the narrative in rapid succession (Conlin, 2015), without regard to joining a cultural conversation in a timely manner.

Recently, investigations into television binge-watching indicate that the strongest reactions from viewers are prompted when people binge-watched existing episodes of a TV show in order to catch up and watch new episodes as they premiered, a likely correlate of FoMO (Conlin, 2015). However, even those opting to consume narratives in binge-form (*accelerated*) could be FoMO-induced, as they may have heard how great a TV show was from their friends and feared that they were missing out on a seminal entrant into the television zeitgeist.

Addressing such differential behavior through the lens of FoMO can be useful for understanding why audiences consume mass quantities of serialized TV content, as current explanations of binge-watching “[adopt] the rhetoric of moral media panic to suggest that sustained TV spectatorship is a health risk” (Matrix, 2015: 124). However, binge-watching, coupled with changing media consumption behaviors and the need for social connectedness, could be an alternative explanation. FoMO could explain how people may opt to binge-watch not because they prefer to, but rather for a presumed psychological need to do so, as not binging results in being excluded from conversational aspects and references of modern society.

Further complicating the relationship between serialized programs, binge-watching, and FoMO is the development of new television release models, most notably Netflix programs (e.g., *Arrested Development*, *House of Cards*, and *Orange is the New Black*) where entire seasons are released at once. Such models negate traditional week-by-week consumption options, forging a new type of binge-watching where one engages in long television-watching stints not because of FoMO as much as the desire not to have other people ruin their overall enjoyment by prematurely revealing key plot points. However, even beyond these differences, such Netflix programs highlight how binge-watching is not exclusive to any singular genre. As Matrix (2015) notes, the shows “belong to different genres... [but] what they share is an enormous popularity among the millennial cohort that makes up the majority of the subscriber base of Netflix” (p. 119). Thus, binge-watching is “not just about convenience and customization (although those are important) but also connection and community” (p. 120).

2.4. Consumption of isolated megaevents: the rise of social TV

Offering a stark contrast to serialized TV programs, one-time media megaevents offer the opportunity for FoMO-induced consumption without the potential angle of binge-watching. If one is interested in such events (ranging from the Super Bowl to the Academy Awards to the State of the Union address to live musicals such as *The Sound of Music*), one can typically watch such content without any need to “catch up” on prior content. Case in point, nobody watches previous holiday parades to prepare to watch the Macy’s Thanksgiving Day parade.

However, FoMO is clearly a factor in heightened ratings for these live, single events, leading to the phrase “DVR-proof” (Stableford, 2012, para. 1) to describe events where people will rarely time-shift so they can watch events precisely as they unfold, even if that includes watching all of the commercials. To wit, the 2015 Super Bowl between the New England Patriots and the Seattle Seahawks drew 114.4 million viewers—up from 2014’s record-breaking 112.2 million—making this single game the most-watched event in American television history (Pallotta, 2015). This individual mega-event is not only the culmination of the NFL’s season, but also a cultural event including sport, increasingly popular and talked-about advertising, and a halftime show promising spectacle and pop music that people will be talking about both in social media and in regular life. Other similar traits of FoMO and isolated single media events pervade, including events such as the State of the Union Address or an awards program.

Facilitating mediated communication among viewers of television programs in real-time via the use of social networking sites and mobile applications has been classified a subset of the “second screen” experience dubbed “Social TV”, (Giglietto & Selva, 2014; Nielsen, 2014a) where viewers devote one screen to watching the television program, while securing another (typically a smart phone, tablet, or laptop) to communicating with others about the television program. As the practice of Social TV increases in popularity and use, some of the most influential conversations about television shows are happening via social media; according to Nielsen Social (2014), 36 million people sent 990 million tweets about television shows in 2013. This is one of the primary reasons why Nielsen Social was created to track digital conversations about television shows using Twitter (Nielsen, 2014a). Nielsen shows that on an average day in 2013, approximately “one million Americans turned to Twitter to discuss TV” (2014b: 20), with television programmers integrating hashtags to encourage social conversations directly into their shows (Nielsen, 2014a).

Viewers may fear that if they do not watch such singular mega-events, they will miss out on pop-culture moments, hindering them from sharing on social media or participating in a conversation or a joke about what happened on TV. Consequently, people find themselves binge-watching the new season of *House of Cards* “if only to keep social media from ruining all the OMG moments for you ahead of time” (Wood, 2015, para. 1), indicating not only that people fear missing out on a cultural moment, but also that they worry others will reveal the moment before they have had a chance to consume it. FoMO applies not only to missing out on cultural conversation, but to missing out on the enjoyment that comes along with consuming a well-written TV show.

2.5. Research questions

A clear case can be made linking FoMO and overarching TV behaviors, yet previous empirical studies have not formally attempted to bridge the concepts. As a result, research questions relating FoMO to (a) pace of narrative consumption, (b) desire to consume one-time media events, and (c) likelihood of social media interaction of one-time media events are all postulated within the current study. Recent scholarship (Conlin, 2015) indicates that FoMO may play a role in the pace at which a person chooses to watch a TV show. Such FoMO may also be related to the type of TV show a person is watching, whether it is a drama with a linear narrative, or a sitcom with a more episodic nature. Therefore, the following research questions are proposed:

RQ_{1a}: Will FoMO predict the manner in which a person will watch a dramatic TV series?

RQ_{1b}: Will FoMO predict the manner in which a person will watch a reality TV series?

RQ_{1c}: Will FoMO predict the manner in which a person will watch a sitcom TV series?

Along with changing technology, some types of programs and events have become DVR-proof (Stableford, 2012), meaning that FoMO may play a role in how likely a person is to consume these types of events. The following research questions seek to better understand these relationships:

RQ_{2a}: Will FOMO predict how likely a person is to watch one-time sporting events?

RQ_{2b}: Will FOMO predict how likely a person is to watch one-time entertainment events?

RQ_{2c}: Will FOMO predict how likely a person is to watch one-time political events?

RQ_{2d}: Will FOMO predict how likely a person is to watch one-time awards shows?

Finally, the majority of investigations into FoMO have focused on how it relates to social media use (Cheever et al., 2014). The rise of Social TV (Giglietto & Selva, 2014) has led

to the need for the investigation of the relationships between FoMO, TV watching behaviors, and social media. Therefore, the following research questions are proposed:

RQ_{3a}: Will FoMO predict how likely a person is to post on social media about one-time sporting events?

RQ_{3b}: Will FoMO predict how likely a person is to post on social media about one-time entertainment events?

RQ_{3c}: Will FoMO predict how likely a person is to post on social media about one-time political events?

RQ_{3d}: Will FoMO predict how likely a person is to post on social media about one-time awards shows?

3. Method

3.1. Sampling

The current study employed a survey in order to understand whether fear of missing out can predict media consumption and interaction behaviors. A non-student, national sample was collected using the software Amazon Mechanical Turk; the survey was posted online and respondents offered their time to take the survey in exchange for monetary reimbursement. Amazon Mechanical Turk has been used in previous research, and has been shown to be a beneficial source of respondent data (Buhrmester, Kwang, & Gosling, 2011; Mason & Suri, 2012; Stavrositu, 2014). Potential respondents were offered two dollars in exchange for their responses. There were no demographic requirements for participation in the survey; thus all respondents who offered their time were included in the sample. This resulted in a survey sample that included a roughly even balance of male and female respondents of all ages and races. In order to comply with human subjects research protocols, all methods and survey questions used in this research were approved by the Institutional Review Board at a large university in the south-eastern United States.

3.2. Survey design

After agreeing to participate in the survey, respondents were asked to answer questions about FoMO. FoMO was measured using the 10-item scale created and verified by Przybylski, Murayama, DeHaan, and Gladwell (2013). None of the ten questions used in the measure were reverse coded. Respondents were asked to indicate their level of agreement on a nine-point Likert scale, where (1) represented strongly disagree and (9) represented strongly agree.

Next, respondents were shown three different lists of TV shows and asked to indicate which of the TV shows they had watched. Each of the three lists represented a different genre of television: scripted dramas, reality shows, and sitcoms. The list of scripted dramas included the following TV programs: *Breaking Bad*, *Downton Abbey*, *Friday Night Lights*, *Game of Thrones*, *Homeland*, *House of Cards*, *Lost*, *Mad Men*, *Orange is the New Black*, *Sons of Anarchy*, *The Sopranos*, *The Walking Dead*, *The West Wing*, *The Wire*, and *True Blood*. The list of reality programs consisted of the following TV shows: *American Idol*, *The Amazing Race*, *Chopped*, *Cops*, *Dance Moms*, *Deadliest Catch*, *Duck Dynasty*, *Hell's Kitchen*, *Keeping up with the Kardashians*, *19 Kids and Counting*, *Million Dollar Listing*, *Pawn Stars*, *Real Housewives of Beverly Hills*, *Top Chef*, and *The Voice*. Finally, the list of sitcoms was comprised of the following TV shows: *Community*, *Entourage*, *Family Guy*, *Friends*, *Full House*, *How I Met Your Mother*, *It's Always Sunny in Philadelphia*, *Modern Family*, *Parks and Recreation*, *Seinfeld*, *That 70s Show*, *The Middle*, *The Office*, *The Simpsons*, *Two and a Half Men*.

After answering each of the three lists, respondents were asked to answer a question about how they had watched one of the TV shows (Conlin, 2015). One show that the respondent had indicated they had watched was randomly chosen for each respondent to answer questions about. Respondents were asked to indicate: Which of the following methods of watching *best describes* how you watched [the TV show]? The following options were presented to respondents:

1. Watched week-by-week using a DVR to record the episodes.
2. Watched week-by-week as the episodes came on TV, live or within seven days.
3. Watched old episodes on DVD or Blu-Ray, then watched new episodes as they came on TV, live or within seven days.
4. Watched old episode on DVR, then watched new episodes as they came on TV, live or within seven days.
5. Watched old episodes online, then watched new episodes as they came on TV, live or within seven days.
6. Watched the entire series at once on DVD or Blu-Ray.
7. Watched the entire series at once using a DVR to record the episodes.
8. Watched the entire series at once, online using a streaming service such as Netflix or Hulu Plus.
9. Watched a marathon of episodes as they came on TV.
10. Other.

Next, respondents were asked to answer questions about whether they had watched megaevents on TV in the last year. There were four questions in this section, one each for sporting events such as the Super Bowl or the Olympics, live musicals or entertainment events (such as *Peter Pan* or the Macy's Thanksgiving Day Parade), political events, and awards shows. Additionally, respondents were asked whether they had posted on social media in the last year about each of the same four types of megaevents.

4. Results

A total of 160 people responded to the survey in this study. A national sample was collected, including 82 men (51.2 percent) and 78 women (48.8 percent). One-hundred-twenty-eight individuals (80 percent) stated that they were white or Caucasian, eight (5 percent) indicated they were black or African American, 13 (8.1 percent) identified themselves as Asian or Asian-American, and nine (5.6 percent) stated they were Hispanic or Latino. The remaining two individuals (1.3 percent) identified their race as "other." The average age of respondents in this sample was 35.23 years old ($SD = 10.13$), and ages ranged from 21 to 71 years of age. Respondents were from 38 of the 50 states, as well as a respondent each from the United Kingdom, Romania, and India.

Before any analysis was conducted, reliability and normality for the continuous variable (FoMO) were assessed. The questions used in this scale variable were all determined to be reliable to work together, and were thus combined into a single variable for FoMO. This variable was determined to be normally distributed, with skewness falling between -1 and 1 , and kurtosis between -1 and 2 .

Additionally, the 10 different options for how a person watched a TV show were collapsed into three different groups. The options for *watched week-by-week using a DVR to record the episodes* and *watched week-by-week as the episodes came on TV, live or within seven days* were condensed into a group called *week-by-week*. The options for *watched old episodes on DVD or Blu-Ray, then watched new episodes as they came on TV, live or within seven days*, *watched old episode on DVR, then watched new episodes as they came on TV, live or within seven days*, and *watched old episodes online, then watched new episodes as they came on TV, live or*

within seven days were collapsed into a group called *half-and-half*. The options for *watched the entire series at once on DVD or Blu-Ray*, *watched the entire series at once using a DVR to record the episodes*, *watched the entire series at once, online using a streaming service such as Netflix or Hulu Plus*, and *watched a marathon of episodes as they came on TV* were grouped as *accelerated*. Respondents who put “other” were excluded from analysis.

Research Question 1a (RQ_{1a}) asked whether FoMO would predict the manner in which a person will watch a dramatic TV series. The variable for how the individual watched the TV show was dummy coded into three dichotomous to represent each of the three watching options as compared to the other methods of watching. Binary logistic regression was then used to assess the individual relationships. Increased FoMO was not a significant predictor of a person choosing to watch a serial drama *week-by-week* $OR(144) = .823$, $p = .10$, or choosing to watch a serial drama *all-at-once* $OR(144) = .99$, $p = .97$. Increased FoMO did, however, predict that a person would choose to watch a serial drama *half-and-half* more than any other method $OR(144) = 1.55$, $p = .02$. This means that as FoMO increases by one unit, the odds of a person watching a serial drama *half-and-half* increases 1.55 times.

Research Questions 1b (RQ_{1b}) asked whether FoMO would predict the manner in which a person will watch a reality TV series. Results of binary logistic regression indicated that decreased FoMO prompted people to watch a reality TV series *week-by-week* $OR(113) = .74$, $p = .03$. Additionally, increased FoMO did not indicate that a person would watch a reality TV show *half-and-half* $OR(113) = 1.75$, $p = .21$, or that a person would watch a reality TV show *all-at-once* $OR(113) = 1.30$, $p = .08$. Therefore, the answer to RQ_{1b} is that a person with decreased FoMO was more likely to watch a reality TV series *week-by-week*.

Research Question 1c (RQ_{1c}) asked if FoMO would predict the manner in which a person will watch a sitcom TV series. Binary logistic regression was used to assess this research question. Increased FoMO did not predict that a person would watch a sitcom *week-by-week* $OR(151) = .99$, $p = .95$, or that they would watch a sitcom *half-and-half* $OR(151) = .98$, $p = .90$. Increased FoMO also had no relationship with a person watching a sitcom *all-at-once* $OR(151) = 1.10$, $p = .47$. Thus, the answer to RQ_{1c} is that FoMO does not predict how a person will watch a sitcom.

Research Question 2a (RQ_{2a}) asked whether FoMO would predict how likely a person is to watch one-time sporting events. Using a binary logistic regression, it was determined that the model was acceptable after four iterations, and a Hosmer and Lemeshow test was not significant $p = .43$. Results demonstrated that increased FoMO did not predict whether a person would watch one-time sporting events $OR(160) = 1.03$, $p = .82$, such as the Olympics or the Super Bowl.

Research Question 2b (RQ_{2b}) asked if FoMO would predict how likely a person is to watch one-time entertainment events. A binary logistic regression was used to assess this research question. A Hosmer and Lemeshow test was not significant $p = .17$, and the model was acceptable after four iterations. Results indicated that increased FoMO predicted that a person had watched a one-time entertainment event in the last year $OR(160) = 1.36$, $p = .01$. This model explained between 4.1 and 5.6 percent of the variance. Therefore, the answer to RQ_{2b} is that as FoMO increases by one unit, people are 1.36 times more likely to have watched a one-time entertainment event.

Research Question 2c (RQ_{2c}) asked whether FoMO would predict how likely a person is to watch one-time political events. Binary logistic regression was used to assess this research question, and the model was acceptable after three iterations. A Hosmer and Lemeshow test was not significant $p = .37$, and there was no significance in the overall model $OR(160) = 1.06$, $p = .64$. Thus, increased FoMO is not related to how likely a person is to watch one-time political events.

Research Question 2d (RQ_{2d}) was used to determine if FoMO could predict how likely a person is to watch one-time awards shows. Using binary logistic regression, it was found

that the model was acceptable after three iterations, and a Hosmer and Lemeshow test was not significant $p = .39$. However, there was no significance in the overall model $OR(160) = 1.18$, $p = .16$. This means that FoMO was not related to a person's likelihood to watch one-time awards shows.

Research Question 3a (RQ_{3a}) asked whether FoMO would predict how likely a person is to post on social media about one-time sporting events. Using a binary logistic regression, it was determined that the model was significant after three iterations, but a Hosmer and Lemeshow test was significant $p = .02$. There was significance within the model $OR(160) = 1.47$, $p = .002$, which explained between 6.0 and 8.30 percent of the variance. Therefore, the answer to RQ_{3a} is that as FoMO increases by one unit, an individual is 1.47 times more likely to have posted on social media about a one-time sporting event such as the Olympics or the Super Bowl.

Research Question 3b (RQ_{3b}) was proposed to investigate whether FoMO would predict how likely a person is to post on social media about one-time entertainment events. Within a binary logistic regression, the model was acceptable after five iterations, and a Hosmer and Lemeshow test was not significant $p = .97$. There was significance in the model $OR(160) = 1.50$, $p = .04$, which explained between 2.8 and 5.8 percent of the variance. The answer to RQ_{3b} is that as FoMO increases by one unit, a person is 1.50 times more likely to have posted on social media about entertainment events.

Research Question 3c (RQ_{3c}) asked whether FoMO would predict how likely a person is to post on social media about one-time political events. A binary logistic regression was used to assess this research question, and the model was acceptable after five iterations. A Hosmer and Lemeshow test was not significant $p = .99$. However, there was no significance within the model $OR(160) = 1.08$, $p = .62$. Therefore, the answer to RQ_{3c} is that there is no relationship between FoMO and a person's likelihood to post on social media about one-time political events.

Research Question 3d (RQ_{3d}) asked if FoMO could predict how likely a person is to post on social media about one-time awards shows. Using binary logistic regression, the model was acceptable after five iterations, and a Hosmer and Lemeshow test was not significant $p = .51$. However, there was no significance within the model $OR(160) = 1.19$, $p = .33$, meaning that there was no relationship between FoMO and how likely a person was to post on social media about awards shows.

5. Discussion

The current study aids in the delineation of relationships between television consumption choices, both in terms of content options, and increasingly with viewing pace options as well. Although FoMO has only recently been defined in terms of media use, the concept is based in long-established needs to connect with others (Przybylski *et al.*, 2013). Newly-employed media delivery mechanisms are clearly changing that equation, with key results found at several levels as this study explicated several relationships between FoMO and other related variables.

First, from a theoretical perspective, it appears that self-determination theory (SDT) does have a relationship with the uses and gratifications approach, at least in so far as the notion of relatedness. Uses and gratifications has typically focused on individual pleasure and choices that could lead to satisfaction, yet the inclusion of the concept of FoMO indicates that part of that pleasure is directly derived from what others find pleasurable or, at a minimum, noteworthy. The feeling of a need to pause all other activities (both mediated and non-mediated) to avoid losing relatedness appears to be at the core of the significant findings.

Moreover, future work could focus on the advancement of this self-determination postulate of relatedness within binge-watching, focusing specifically on whether it functions on positive reinforcement (“binging on a TV show allows me to be ‘ready’ for any conversations that may arise about it”) in a different manner than negative reinforcement (“not binging on a TV show could cause me to be ostracized in future conversations about it”). FoMO seemingly inherently focuses on the avoidance of the negative, as it emphasizes not “missing out” more than getting to be “on the inside.” Self-determination theory seemingly focuses on the inverse side of the coin, emphasizing what is to be gained through the correlate of relatedness. As such, determining whether such desires represent a related zero-sum game can be explored through vehicles such as binge-watching, among other media content offerings and formats.

Second, increased FoMO made people more likely to watch a dramatic TV series at a *half-and-half* pace, whereas decreased FoMO was related to a person watching a reality TV series *week-by-week*. Regarding the former finding, it appears that dramatic series have the highest potential for media “spoilers,” likely causing people to binge-watch programs to be caught up with the narrative and ensure no one reduces potential enjoyment of a program. New models releasing dramatic series one season at a time (e.g. Netflix, Amazon Prime, and Yahoo! Screen) may lead to a different category of viewer, watching *accelerated*, yet doing so from a *half-and-half* motivation. As Bianco (2015) aptly notes, “Netflix doesn’t care much whether you view the episodes all at once or watch them a week at a time. But if you take your time, you’ll risk having the mystery at the show’s core spoiled by someone who didn’t” (p. 6B). Regarding the latter finding that reality programs were more likely to be consumed in *week-by-week* form, the role of the spoiler enact a different function within these programs, as popular reality shows (e.g., *Keeping Up With the Kardashians*, *Duck Dynasty*) feature characters and moments that are the least-likely to receive a “spoiler alert,” instead instantly becoming a topic for conversations on many media platforms, ranging from late-night comedy shows to supermarket tabloids. Being interested in one of these programs seemingly negates time-shifting desires, giving such shows primacy over scripted programs when deciding what to watch in the short-term.

Third, increased FoMO was related to a person being likely to have watched a one-time entertainment event. Interestingly, this finding was uncovered for entertainment events, yet not specifically for sporting events, or political events. Thus, it appears that while one-time sporting events continue to garner the highest ratings, motivations other than FoMO may explain why they are being consumed almost exclusively in live formats. Meanwhile, one-time entertainment programs function differently, as they have been linked in this study to conceptions of FoMO.

Fourth, people with increased FoMO were more likely to have posted on social media about one-time sporting events and entertainment events. Thus, it appears tendencies to use social media could be positively correlated with elevated levels of FoMO, substantiating earlier research (see Cheever *et al.*, 2014; Fox & Moreland, 2015). Moreover, future research could investigate which social media formats are incorporated within these second-screen experiences. One could presume Facebook and Twitter remain primary facilitators of these conversations, yet even those operate in different fashions. Some social media platforms, including Facebook, are designed to share content almost exclusively with friends; other social media platforms, including Twitter, are designed with broader audiences in mind, often sharing and interacting with strangers who happen to share a common interest.

Directions for future research have already been outlined within many of these core findings, yet another opportunity seemingly resides within the realm of self-determination theory (Ryan & Deci, 2002). More specifically, the three primary needs offered within the theory (competence, relatedness, and autonomy) could each be directly explored in regard to both FoMO and media selections (both of content and pacing). Relatedness appears to be

the closest correlate to such concepts, yet deciphering potential relationships with competence and autonomy needs could provide a more robust understanding of the interrelationships at play within increasingly byzantine mediated options.

6. Conclusion

Unlike past major conceptions of FoMO, where one feared missing attending a child's game or friend's party, mobile media now offers the potential for constant FoMO among those most apt to respond to such needs. The fact that people check their phones over 150 times per day (Stern, 2013) is exemplar of the escalating urge to safeguard that one is constantly in touch. Ensuring communication with friends and family can certainly be tied to FoMO, yet cultural conversations that instantly become viral can happen at any time; in 2015, millions of social media posts regarding differing opinions of the color of a dress made the subject Topic A on news programs the next morning. Such instantaneous conversations—momentary watercooler conversations with incredibly short shelf-life—represent increased merging of media and FoMO.

Intense reactions are prompted from viewers while binge-watching existing episodes of a TV show in order to catch up to existing episodes—viewers engage in this behavior as a likely result of FoMO. These viewers are a part of a changing media environment, one where myriad content is available to viewers at all times, and viewers have control over what and when they watch. FoMO seems to be driving many of the changes that are evident in modern media consumption; part of the enjoyment of watching TV is being able to talk about it with friends, and being part of an overarching, cultural conversation. This is particularly evident in serial dramas, where plot points and twists are likely to be prematurely revealed the longer a person waits to watch current episodes. This behavior was not evident for reality TV shows or sitcoms, where individuals can easily move both in and out of the narrative, and it is unlikely that FoMO would prompt people to fear that others are having an enjoyable experience for which one is not present. FoMO may also be driving the need to watch one-time media events as they occur. It is impossible to DVR the Super Bowl or the Oscars, as the final result of these events will surely be revealed through all social media outlets and interpersonal social circles as soon as they are certain.

This study highlighted how these factors are, indeed, related. They are influenced by one's personality, by the television program genre, by the duration of a media offering, and by the desire to discuss media content via social media platforms. Uncovering the rapidly shifting behaviors of media consumption is a major endeavor for media scholars in the coming years, with this study warranting continued inclusion of FoMO within that admittedly complex equation.

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