

Generation Multitasker: How Millennials use second screens while watching televised sport

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Abstract

People born between 1980 and 2000 are commonly known as the Millennial generation (Gurau, 2012). Millennials are digital natives of a 24/7 online, there's an app for everything, social media-rich landscape in which older generations will always be, to some degree, foreigners. Through the use of a survey, this study examined how a sample of 303 Millennials use mobile devices such as a smartphone or tablet to text, utilize mobile apps, and check social media while watching sport on TV. Their responses indicated the importance of using a second screen to pass the time during commercial breaks and stay informed about other sporting events. A factor analysis revealed three dimensions of usage for what motivated them to text, check apps, and utilize social media. The subsequent discussion links these findings to previous research into social presence theory and second screen usage.

Introduction

Second screen use is the act of engaging with a second electronic device, such as a smartphone or tablet while watching television (Cunningham & Eastin, 2015). The use of a second screen has created a phenomenon known as social television, whereby viewers of a TV program are able to have conversations with other viewers while watching the program (Harboe, Massey, Metcalf, Wheatley, & Romero, 2008). These shared experiences may provide richer televised viewing experiences for people, while also impacting the effectiveness of advertising during those televised programs (Harboe et al., 2008; Hwang & Lim, 2015; Leff, 2014). When it comes to sports, as many as 40% of fans use a second screen while watching games or contests (Cunningham & Eastin, 2015).

Jensen, Walsh, Cobbs, and Turner (2015) emphasize Millennials, defined as individuals born after 1980, are "the most appropriate sample with whom to study emerging trends involving the impact of technology on media consumption" (p. 10), because they are more likely than other generations to use technology, such as laptops and smartphones, to watch various types of programming. In fact, Millennials are more familiar and comfortable with technology than other generations (Bess & Bartoloni, 2011).

Smartphone usage among this generation is nearly ubiquitous and an important influence on their consumption habits (Young & Hinesly, 2012). The Pew Research Center reports that 86% of Americans between the ages of 18 and 29 own a smartphone (Weise, 2015), which has impacted how the Millennial generation watches television and consumes media. The popular mobile app Snapchat reports that 13-34-year-olds watch live stories about events on the Snapchat app eight times as frequently as they do equivalent television programming about those same events (Williamson, 2016).

Additionally, mobile apps are a vital element of smartphone usage (Kang, Ha, & Hambrick, 2015), and in 2015 consumers spent more than 1.2 billion hours consuming sport-related content on their smartphones (Nielsen, 2016). Sports continue to dominate other social media platforms popular with Millennials because they allow for real-time user interaction during live sporting events (Hwang & Lim, 2015). Despite sports accounting for only 1.4% of all television programming in 2015, nearly 50% of TV-related conversation on Twitter was about sports (Nielsen, 2016). Seemingly, second screen use is important because it provides a way to interact, and gather information and insight, about sports. The apparent widespread acceptance of these new behaviors requires investigation into their intricacies.

Despite some scholarly inquiry into second screen use (e.g., Cunningham & Eastin, 2015; Hwang & Lim, 2015; Vooris, Smith, & Obeng, 2015) and mobile apps (e.g., Kang et al., 2015; Watkins & Lewis, 2015) research on how sport fans utilize specific actions on second screens in conjunction with watching TV is limited. At this point in time, current research has only begun to examine the second screen perspective and has frequently done so without conceptualizing the different ways a second screen can be used (e.g., texting, app usage, social networking sites). From a practical standpoint, a deeper understanding of how fans, particularly Millennials, integrate technology such as smartphones into their sport viewing will provide sport organizations with information on how their fans consume their brand and may provide new channels for advertising to a coveted demographic group (Lynn, 2015; Stout, 2015), which is now America's largest living generation (Fry, 2016). The current study aims to strengthen scholarly work on second screen usage in sport. With these goals in mind, the purpose of the current study is to examine what motivates Millennials to use second screens during their sport viewing experiences, what actions they are taking on second screens while watching sports, and how those actions vary by the features available on second screen devices (e.g., texting, mobile apps, social networking sites).

Literature Review

The notion of interaction through media usage is predicated on the idea that users feel a sense of connection to other users (Hwang & Lim, 2015; Wohn & Na, 2011). This communal feeling of connection is the essence of social presence. According to Short, Williams, and Christie (1976), social presence is "the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships" (p. 65). More succinctly, social presence is "a sense of being with another" (Biocca, Harms, & Burgoon, 2003, p. 10). In other words, a user's perception of connection with another influences his or her social networking site (SNS) behavior (Biocca et. al, 2003). In fact, Kim and Biocca (1997) argue understanding social motives for media use is grounded in social presence. For example, users who engage in online conversation for information-seeking purposes from an information-rich platform should feel a greater sense of social presence (Hwang & Lim, 2015). According to Tu (2000), the degree of social presence is determined by the characteristics of the communication medium and the user's perception of that medium. Thus, SNS such as Twitter offer perhaps the strongest sense of social presence due to their real-time nature and multiple opportunities for immediate feedback from other users.

When it comes to watching sport, Xu and Yan (2011) suggest social connection is a primary motivation. Hence, fans who use mobile sport apps such as ESPN SportsCenter or Yahoo! Sports may bolster their feelings of social connection with other fans because they are able to engage instantly with fans from outside their immediate geographical area. This connection may

increase their excitement for the sport and offer a richer online environment because they feel a sense of belonging to the online sport community (Hwang & Lim, 2015). Moreover, hashtags and emojis may act as suitable replacements for the nonverbal characteristics of face-to-face communication such as eye contact and body language (Cui, Lockee, & Meng, 2013; Gunawardena, 1995), further increasing the social presence among users.

Second screen research

Second screen use among sport fans is not replacing televised sport; rather, it is complementing televised sport (Cunningham & Eastin, 2015; Gantz & Lewis, 2014). For example, fans are more likely to go to a network's Facebook page or Twitter feed if the sportscasters of a particular game urge them to do so (Gantz & Lewis, 2014). Gantz and Lewis suggest second screen use keeps fans involved in the game even if it is not particularly exciting. Gantz and Lewis indicate five ways new media creates a complementary, more fulfilling fanship experience: 1) digital self-expression and identity, 2) extended fanship networks, 3) information expertise, 4) parasocial interaction, and 5) competitive ambitions. Digital self-expression and identity refer to a fan's ability to create and disseminate his or her support for their favorite teams. Rather than yell at the TV when fans disagree with an official's call, they can vent that frustration through a text or on a SNS to their followers and other sport fans. Extended fanship networks are networks fans cultivate exclusively on new media that give them the perception of keeping in touch with other fans. Information expertise represents the ability of fans to "control what they know, how much they know, and the means by which they acquire that information" (Gantz & Lewis, 2014, p. 28). Parasocial interaction permits fans to gather insider information on their favorite athletes, since many athletes maintain personal Twitter accounts and share intimate information about their daily lives. Finally, competitive ambitions are applicable to fantasy sport participants and refer to a fan's ability to use new media to gain a competitive advantage over others. Ultimately, Gantz and Lewis reiterate that second screen use is not replacing televised sport because smaller screens cannot compete with the presence and immediacy of TV.

Within the sport world, scholars have begun exploring how fans utilize second screens while watching sport events. Hwang and Lim (2015) drew on motives from uses and gratifications and social presence theory to explore users' motives for engaging with second screens during a mega-sporting event. By surveying 560 Korean college students about their social TV experiences during the 2012 Olympics, Hwang and Lim discovered three factors that explained users' motives: excitement, information, and convenience. While this research is valuable, their sample was limited to Korean college students. It would be beneficial to investigate and compare how the measures they developed applied to Millennials elsewhere.

Leff (2014) explains second screen use during televised sport is rising, and as a result, fans' attention is split between multiple screens. Because sport programming differs from regular programming in that it is usually viewed live due to the uncertain outcome of a game (Nielsen, 2016), sport programming is minimally affected by time-shifted viewing through the use of digital video recording (Cunningham & Eastin, 2015; Nielsen, 2016). However, second screen use may increase during commercial breaks as fans wait for the action to return (Leff, 2014). This is potentially problematic for advertisers because fans become distracted during TV advertising (Leff, 2014), and more than 70 billion dollars was spent on television advertising in 2015 (Williamson, 2016). Leff reports that TV advertising awareness decreases by 58% among fans who use a second screen while watching TV. Interestingly, Leff also argues if second screen content corresponds with television content, advertisement awareness actually increases by

more than 40%. Thus, the more streamlined the second screen content, the more effective television advertising may be regardless of a fan's split focus.

Jensen et al. (2015) examined how second screen use affects brand recall among sport fans who were Millennials born after 1980. Their results indicate brand recall and recognition significantly decrease when fans watch a sport broadcast without sound (watching a game on a computer while at work with the sound off), and when fans only listen to a sport broadcast (listening to a game on the radio while driving home). Their results also indicate using a second screen during televised sport broadcasts significantly reduces brand recall. Brand recognition also is significantly reduced while using second screens if there are restrictions on the audio or video aspects. In their closing remarks, Jensen et al. (2015) explain integrating the brands into the second screens of sport fans may increase brand awareness and loyalty. They suggest Twitter hashtags or sponsored tweets may be the first steps to assimilating brands into second screen use, since hashtags allow Twitter users to have conversations about one topic and are common for most sporting events (Blaszka, Burch, Frederick, Clavio, & Walsh, 2012).

In an effort to understand why sport fans engage in second screen use, Cunningham and Eastin (2015) conducted a study looking at the relationships between team identification, engagement, and self-efficacy related to second screen use. They argue second screen use can be advantageous from a marketing perspective because second screens can be used to attract more fans and increase engagement through the use of fan polls, trivia questions, and specific hashtags. These sentiments support Jensen et al.'s (2015) suggestion that integrating hashtags into the televised sporting event will help streamline brand recognition and loyalty. Among their findings, Cunningham and Eastin found that 77% of participants (who ranged in age from 18-64, with a mean of 32 years) use their second screen for social media and 65% use it for game-related information. Similar to Leff's (2014) findings, participants said they used a second screen during 72% of commercial breaks. Cunningham and Eastin's results also reveal significant positive correlations between engagement with a second screen and actual device use, and team identification and second screen device use.

In an attempt to talk directly to two-screen users, Vooris, Smith, and Obeng (2015) conducted focus groups to examine how sport fans use technology while watching sport. Their results uncovered three major themes with regard to how fans use second screens. The first theme that emerged was the desire of participants to stay up-to-date on sport statistics. Mobile sport applications such as Yahoo! Sports and ESPN SportsCenter allow fans to remain informed about statistics from a game they are watching because the apps are updated in real time. These apps provide supplemental information and enhance the viewing experience for fans. The second theme was the ability to stay plugged into their social networks and text with family and friends. Fans are able to keep abreast of other games occurring simultaneously through SNS such as Twitter and Facebook, and they can easily change the channel to a more exciting game based on what others are saying. Vooris et al. (2015) found Twitter was the go-to social media application for participants due to its real-time functionality and variety of information angles (e.g., super fans, celebrities, athletes, and friends). The third theme to emerge was a desire to check on fantasy team performance. All but one participant reported using the Internet or mobile apps to regularly check on their fantasy teams while watching other games. Overall, Vooris et al.'s results suggest mobile technology provides more information than what is included in the broadcast. They explain that second screen technologies complement the televised viewing experience, which is a sentiment echoed in previous research (see Cunningham & Eastin, 2015; Gantz & Lewis, 2014). The convenience afforded by mobile technology makes it easy for sport fans to supplement what they watch on TV and may be the

biggest reason why participants reported using mobile technology simultaneously while watching televised sport at least 90% of the time (Vooris et al., 2015).

Scholars have also begun to investigate fan motivations for using specific second screen technologies, such as mobile apps. For instance, Kang, Ha, and Hambrick (2015) employed a mixed-method research design for examining college students' motives for using sport-related mobile apps such as ESPN ScoreCenter or CBS Sports. Their findings suggest fanship, convenience, and information are the three most salient motives for use. When it comes to predicting second screen usage, backward regression analysis revealed entertainment and fanship motives were the most significant predictors, accounting for 18.6% of the variance. Furthermore, their qualitative findings reinforced their quantitative results. Through semi-structured focus group interviews and in-depth individual interviews, Kang et al. found participants viewed mobile apps in a positive light and felt apps were a benefit to using a smartphone. Moreover, the authors classified fan motivations for using mobile apps into six categories: 1) entertainment and fanship, 2) convenience, 3) information, 4) economic considerations, 5) curiosity, and 6) social influence, that mirror the motives identified through the quantitative analysis. In their closing remarks, Kang et al. advocate that mobile app usage is closely tied to users' lifestyles, and being able to support their fanship through these apps is an important aspect. Thus, it is critical for sport organizations to understand user intentions and motives so they may begin to offer content that differs from what fans see on TV, but also complements fans' television viewing.

It is clear the investigation of second screen use in sport management literature is developing rapidly, but our understanding is still in its infancy. Apple's introduction in 2007 of the iPhone, which brought an operating system and multi-point touch to the cellular phone, created momentum for radical change in the mobile technology market, which is still less than 10 years old. In addition, mobile applications offer instantaneous, easy access to a wealth of information that can be tailored to the individual's interests, such as sport (Gantz & Lewis, 2014; Hwang & Lim, 2015). Scholars have shown second screen use among sport fans is becoming the norm and that fans use these devices to complement their viewing experience (Cunningham & Eastin, 2015; Gantz & Lewis, 2014, Vooris et al., 2015) and partake in elements of social presence (Hwang & Lim, 2015). Therefore, the next logical step is to delve deeper into the most salient motivations for second screen use among sport fans and what activities these fans engage in while watching TV. For example, Cunningham and Eastin's (2015) results do not break down findings by age or type of behavior on second screens. As demonstrated previously, the younger generation has an astonishingly high usage rate for smartphones. Hwang and Lim's (2015) findings were limited to undergraduates at Korean universities, while Vooris et al.'s qualitative findings came from three focus groups. The existing research on second screen research is solid, but a more nuanced understanding of this emerging trend is necessary and can be found by soliciting results from a large sample.

Method and Research Questions

Previous research on second screen usage grounded in social presence theory guided the development of the following research questions used to develop the questionnaire and inform the subsequent analysis.

RQ1: What are the strongest motivations for two-screen users to use a second screen while watching televised sport?

RQ2: What differences are there in these motivations based on whether the second screen user is texting, checking mobile apps, or using a SNS?

RQ3: When using a second screen to text, check mobile apps, or use a SNS, are there observable factors within that usage?

RQ4: Are there motivations or usage patterns of second screen users that they may be aware of, but which the questionnaire failed to touch on?

To determine how Millennials were utilizing second screen technologies while watching sports on television, a survey was designed based on previous research in the area (Hwang & Lim, 2015; Vooris et al., 2015), which used focus groups and a survey to determine possible motivations for second screen use. Hwang and Lim's quantitative measures were fused with findings from Vooris et al. that demonstrated SNS usage was only a part of second screen usage. Hwang and Lim's measures only addressed SNS usage. Vooris et al. (2015) illustrated that texting and checking mobile apps were additional vital components of second screen utilization.

From this starting point, 12 survey items were developed. The survey repeated these 12 items under three different sets of instructions. Different conditions were used to provide a clearer understanding of users' behavior. The first set of instructions, hereafter referred to as conditions, asked survey participants to rate items based on their experiences relative to texting, one of the motivations for using a second screen found by Vooris et al. (2015), but missing from other second screen research. Texting also was used because, according to Gallup, as many as 68% of Millennials send or read a text on a daily basis, while 38% of them post to or read SNS such as Facebook or Instagram (Newport, 2014). The instructions made clear that participants were to consider only texting when rating their responses to the 12 statements. The second condition drew on the research of mobile app popularity (Kang et al., 2015) and asked participants to rate the same 12 items for their use of mobile apps, but clearly stated this did not include mobile apps used for SNS. For the third condition, participants were asked to rate the same 12 items for their use of SNS. The examples of Twitter, Facebook, and Snapchat were mentioned. For each condition, participants were asked to rate the 12 items from one (strongly disagree) to five (strongly agree). This repeated measures design attempted to determine if differences existed across the three conditions, texting, app usage, and SNS usage while watching televised sport. The format of the questionnaire also included questions about participants' demographics and an open-ended question that asked participants if they felt there were motivations for using a second screen that might not have been addressed.

Millennials in more than one geographical location were targeted in an attempt to provide a widespread assessment and make a case for more generalized findings. Distribution of the questionnaire took place over six weeks starting in December 2015 through the first weekend of February 2016. Students in multiple classes at four US colleges were recruited for their participation: one in the northeast, two in the Midwest, and one in the Mountain West. Amazon Mechanical Turk and reddit.com/r/samplesize were also used as recruiting devices, with participants on Mechanical Turk being paid for their participation. The survey included an information sheet explaining the purpose of the survey and asking participants to participate if they felt they could accurately answer questions about how they used technology while watching sports.

Data analysis

Despite the use of a screening question that stated participants should be between the ages of 18 and 34, 26 participants indicated their age was greater than 34 and were removed from the sample. This left a sample size of 303 ($n = 303$). Analysis was conducted in SPSS Version 22. Descriptive statistics, frequencies, factor analysis, and ANOVAs were used to determine answers to the research questions. The factor analysis was conducted through an exploratory factor analysis (EFA) with varimax rotation. Use of a scree plot and an examination of eigenvalues were used to determine factor retention (Brown, 2006). Dimensions of usage were computed out of the 12 identical items in each of the three conditions. Items were only considered salient if they loaded above the .50 level on one factor. Additionally, 12 one-way repeated measure ANOVAs were completed to determine if differences existed between the three separate conditions. If the main ANOVA was found to be significant, follow-up paired-sample t-tests were used to examine where differences occurred between the three conditions. Responses for RQ4 were coded qualitatively using initial coding and axial coding. In this approach, open-ended responses are grouped into similar conceptual categories and sub-categories (Saldana, 2009).

Results

The average age of respondents was 22.7 years ($SD = 4.76$). Males outnumbered females 68.9% to 30.7%. Most participants were residents of the US (91.3%) and a majority (57.9%) listed student as their current occupation while 37.3% reported being employed.

RQ1 asked what the strongest motivations were to use a second screen in each of the three conditions. Of the 12 items rated by respondents on the five-point scale, the item with the highest score across all three conditions was *helps pass the time when the game is in commercial* ($M = 4.08$, $SD = 1.07$). Within the texting condition, the item with the second highest score was *allows me to stay informed about other sporting events that I'm not watching on TV* ($M = 4.05$, $SD = 1.10$), followed by *allows me to express to others how I feel about what I watch* ($M = 3.96$, $SD = 1.06$) and *allows me to point out to my friends when my team does well or their team does poorly* ($M = 3.94$, $SD = 1.07$). The lowest scoring statement in the texting condition was *allows me to feel like I'm watching a game with friends* ($M = 3.23$, $SD = 1.24$). Within the app condition, after passing the time during commercial breaks, the strongest motivations were *helps pass the time when the game is uninteresting* ($M = 3.80$, $SD = 1.07$), followed by *allows me to stay informed about other sporting events that I'm not watching on TV* ($M = 3.64$, $SD = 1.14$), and *allows me to stay up-to-date on game and player statistics* ($M = 3.54$, $SD = 1.16$). The lowest scoring statement in the app condition was *allows me to feel like I'm watching a game with friends* ($M = 2.76$, $SD = 1.32$). Within the SNS usage condition the highest scoring item, after passing the time during commercial, was *helps pass the time when the game is uninteresting* ($M = 4.08$, $SD = 1.04$), followed closely by two items: *allows me to express to others how I feel about what I watch (a big play, a funny moment, etc.)* ($M = 4.01$, $SD = 1.10$), and *allows me to know how my friends are reacting to what they've just seen (a big play, a funny moment, etc.)* ($M = 3.99$, $SD = 1.15$). The lowest scoring statement within the SNS condition was *allows me to track my fantasy teams* ($M = 2.88$, $SD = 1.43$).

RQ2 asked if there were differences in usage patterns between the three conditions of texting, mobile app usage, and SNS usage. Table 1 displays the means and standard deviations of those responses. The repeated-measures ANOVA demonstrated where differences exist. Table 2 displays all significant follow-up pairwise comparisons.

Eleven out of the 12 statements showed significant differences at the $p < .05$ level when all three conditions were considered. *Allows me to get updates on injuries and storylines that the broadcast is not providing in a timely manner* was the sole statement not to produce a significant difference. The 11 statements in which the repeated-measures ANOVA showed significant differences demonstrated the motivation had an impact on how participants used their second screen. For these 11 statements, follow-up pairwise comparisons with paired-samples t-tests were examined to see where differences existed. These differences are shown in Table 2.

The follow-up comparisons for the 11 statements showed a number of significant differences in scores based on the three conditions. In all cases, except for statements six and seven, the means for the texting and SNS conditions were higher than the app usage condition. These differences were statistically significant for statements one through three, seven to nine, and twelve. The app condition produced significantly higher scores than the SNS condition for statement six and seven, which referred to staying up-to-date with game scores and fantasy teams. There were significant differences between the texting and SNS condition for four statements. For statements four, six, and seven the texting scores were significantly higher than the SNS scores, while for statement twelve the SNS score was significantly higher than the texting score.

RQ3 asked if observable dimensions of usage existed within each of the three conditions. A factor analysis revealed three factors within each condition. These results are shown in Tables 3, 4, and 5. The texting condition's three factors were labeled *information gathering*, *excitement*, and *fanship* and combined to explain 66.9% of the total variance in usage. The three factors for mobile app usage were labeled *social connection*, *information gathering*, and *diversion* and explained 71.3% of the total variance. The SNS usage dimensions were given the names *information gathering*, *social connection*, and *diversion* and combined to explain 75.9% of the total variation.

RQ4 inquired if there were any motivations for using a second screen that the questionnaire might have missed. This research question was addressed by asking participants to list important influences on why or how they use a second screen that they felt the questionnaire did not include. The all-encompassing themes developed from 114 responses were *convenience* and *observational*. Categories and sub-categories were identified by investigators through axial coding where responses are sorted into similar conceptual groups (Saldana, 2009). Convenience for the users of second screens took shape from properties of *boredom* and *watching multiple events*. Boredom was exemplified by references to "How boring the game is" and "When the game is not interesting." Other references such as "to pass time" showed respondents used second screens due to boredom. A few users mentioned they used two or three screens to watch multiple events at once to prevent boredom. Observational behavior brings some clarity to when people turned to social media versus when they decided to text. One respondent wrote an important influence of checking social media was to see "how many other people are posting on the same game I am watching." Others articulated an *if-then* scenario: "It just depends. If I want to see reactions of everyone I go on twitter and snapchat," "In a moment of controversy I often go on Twitter to see what certain expert voices I believe are worth noting are saying about the event," and "to see how others are celebrating a victory or loss for their team or a big sporting event in general."

Discussion

The results of the current study expand the collective knowledge of how Millennials engage with second screens while watching televised sports. By using previous research to delineate their actions into three separate conditions, the current study sought to drill down into the motivations and usage patterns of this technology-adept generation of sports fans. Additionally, it attempted to understand this behavior through the lens of social presence theory. For example, while previous research (Hwang & Lim, 2015) established the importance of using a second screen while watching sports because it was exciting, the current study attempted to classify which specific actions (e.g. texting, mobile apps, social networking), were exciting and how that excitement might change depending on what an individual did with their second screen.

Hwang and Lim's (2015) study of the social TV habits of Korean college students identified the theme of information seeking, which also was found in all three conditions by the current study. In addition, the theme of excitement found by Hwang and Lim and Kang et al. (2015) was found within the texting condition in the current study. The social connection factor found in the current study also shares similarity with the excitement factor found by Hwang and Lim. The important difference is the results from the present study demonstrated these social connection items were strongest when users were using mobile apps and SNS. This finding makes sense when viewed through the social presence lens because SNS, such as Twitter, offer a wealth of real-time interaction and information. In turn, texting was used to do a host of different activities that might be thought of as something done on an app, such as tracking fantasy teams and staying up-to-date on other sporting events. In addition, the enjoyment or excitement that came from social aspects was a bit higher when users used SNS to connect socially, so they could feel like they were watching a game with friends or expressing themselves about exciting events.

Perhaps the most striking result, and an emerging trend in second screen user research, is the high scores given to items related to passing the time during commercials and when a game became uninteresting. These high scores were consistent across all three conditions, with the important distinction that users were significantly more likely to turn to a SNS than texting or apps when a game became uninteresting. This is a stark finding for the realm of sport advertising and confirms Leff's (2014) contention that second screen use during a television broadcast results in attention frequently being diverted from the broadcast during commercial interludes. Cunningham & Eastin (2015) found this behavior was common, occurring during 72% of commercial breaks in their research. Research by Jensen et al. (2015) found that distracted viewing, which they defined as listening to an event while visually focusing on another task such as texting and checking social media, severely impacted brand recognition and recall during sport events when compared to brand recall when both audio and visual attention were focused. While some of these effects may be mitigated by more brand integration into the actual broadcast (Nagy & Midha, 2014), such as the use hashtags or sponsored tweets (Cunningham & Eastin, 2015; Jensen et al., 2015), or mobile application integration with the broadcast (Gantz & Lewis, 2014; Leff, 2014), the most common action during commercials appears to be texting. It remains to be seen how teams, broadcasters, and advertisers can reach fans when they decide to text with their friends and family. Additionally, the discovery that some users mentioned using multiple screens to watch multiple events so they can avoid boredom makes it difficult to argue for the effectiveness of commercial advertising towards some Millennials

The differences between the texting condition and SNS condition revealed that Millennials turn more frequently to texting than social media or apps to stay informed about other sporting events. While mean scores for the staying informed motivation item were high across all three

conditions, the highest score was in the texting condition. Millennials may be turning to their friends and family to keep them informed rather than third parties such as ESPN. Conversely, SNS scores were significantly higher than those in the texting condition on items related to feeling like they were watching a game with friends. The higher SNS scores may be due to the real-time conversational feel of Twitter that builds on elements of social presence mentioned by Xu and Yan (2011). In this action, the SNS user is seeking a social connection during their viewing experience. As Hwang and Lim (2015) and the current study's results show, this may be done to create more excitement for the viewing experience, while also allowing them to feel like they belong to a community of fans watching the same event.

The concepts of conversation, digital self-expression, and identity suggested by Gantz and Lewis (2014) and Harboe et al. (2008) appear to exist for Millennials through texting and SNS usage. The overall high scores for the items in the texting condition indicate the importance of texting for Millennials, with an important distinction that reveals the importance of digital self-expression and digital self-identity to the Millennial generation. When it came to expressing to others how they felt about what they were watching, participants were slightly more likely to turn to social media rather than texting, though this difference was not statistically significant. Similarly, when respondents wanted to know how their friends were reacting to a big play or important moment, they were more likely to turn to social media than texting. When it came to a specific moment, such as when an individual's team performed well, respondents were more likely to tell others through texting than social media. The same was true when respondents wanted to point out to a friend that the friend's team did poorly. Interestingly, in relation to expression, items of expression combined with items of passing the time in the second factor during the EFA of the texting condition. Both passing the time items loaded with one expression item related to talking about a big play and one social connection item related to seeing how friends reacted to a big play. This may suggest that expression through texting or reading texts is a form of passing the time for Millennials.

The mean scores of each item in the mobile app usage category often were significantly lower than in the texting and SNS conditions. Mobile app usage may require a higher level of concentration and time commitment. Kang et al. (2015) found the strongest motivations to use sport-related mobile apps were entertainment and fandom. It may be that if a person feels entertained by what they are watching on TV, they do not turn to a mobile app. Support for this contention is found in the two highest scores in the app condition: using apps during commercials and when the game is uninteresting. Launching, searching, and navigating a mobile app requires more time and effort than some other second screen functions, such as typing a text message or using one's thumb to scroll through Twitter. This might explain why app usage scores were much higher for the two items related to passing the time when TV content is unengaging. In those instances, attention shifts to the mobile app where the user hopes to gain a level of entertainment that the TV is no longer providing to them.

Gantz and Lewis (2014) also pointed out that complementary new media allows fans to extend fandom networks and gather additional information about what they are watching. These two concepts appear to be actualized through the process of texting. The EFA for the texting condition revealed the factor of fandom, whose items dealt with making the experience of watching the game more communal and exciting. While the communal connection element of social presence and fandom networks are evident in the texting condition, the information motivation mentioned by Gantz and Lewis was clear in the EFA for each of the three conditions. The following items appeared in the information-gathering dimension for each condition: *allows me to stay up-to-date on game and player statistics, allows me to get updates on injuries and*

storylines which the broadcast is not providing in a timely manner, allows me to get instant expert analysis of what I'm watching, and allows me to track my fantasy teams. The information-gathering dimension in the app and SNS condition added the item *allows me to stay informed about other sporting events that I'm not watching on TV.* This finding demonstrates the importance of mobile apps and SNS for providing real-time updates to fans about sporting events they cannot or are not watching.

The motivations participants thought were missing from the survey centered on convenience and observation. The convenience motive had less to do with a similar factor found by Hwang and Lim (2015) and more to do with the ability to keep from getting bored. This was expressed through the experience of watching multiple events to prevent boredom. This occurrence was something Vooris et al. (2015) found in their focus groups. This finding suggests the need for future research to understand why Millennials turn to social media over texting to express certain thoughts. Additionally, the finding that big events and iconic moments prompt Millennials to turn to SNS suggests that this is a prime time for advertisers and brands to engage an audience they find difficult to reach otherwise. For example, Nabisco's brand Oreo is well known for capitalizing on a shared sporting cultural moment that caused people to turn to social media. The company's tweet during the power outage at Super Bowl 47 was retweeted more than 15,000 times and garnered the brand extensive media coverage (Rooney, 2013).

Limitations and Future Research

One of the limitations of this study is the lack of knowledge about whether Millennials differentiate between apps, websites, and SNS. While Twitter is a website it also has an app, both of which allow access to its social network. As sports fans increasingly turn to their smartphones and tablets to consume content, it is important to note the line between apps, websites, and SNS is becoming blurred. This is part of the emerging trend of universal apps. The younger generation is increasingly unaware of a landscape that exists only on the World Wide Web, rather than one that exists online and through the mobile apps and text messages on their devices. Media companies such as ESPN exist both on the web and through their apps, which also integrate elements of SNS such as Twitter feeds. Despite the use of an explanation that detailed each condition, the survey may have presented difficulties for some participants in differentiating between mobile apps and SNS. A second limitation of this study is that participants may not have fully read or understood the instructions for each condition. For example, they may have taken the usage of apps such as the multimedia texting app Whatsapp into consideration while rating the items in the texting condition. This issue may explain some of the low scores within the app usage category.

While this research targeted Millennials because of their unique relationship with emerging information technologies and multitasking, future research could examine how people of different generational cohorts engage with technology while watching sports. As mentioned above, it is also increasingly necessary to understand how or if consumers regard mobile apps differently from SNS and websites. It is entirely conceivable that a 23-year-old sports fan does not think of Twitter as a website or an app or a social network, but some combination of the three that functions only as a means to an end for them.

Conclusion

This study focused on Millennials' use of second screens to complement their viewing of televised sports. The results found that Millennials used second screens when games became

uninteresting and when the games went to a commercial. Furthermore, the results also revealed Millennials use their second screen in different ways under different circumstances. While many will text with others to point out when their team does well, they often turn to social networking sites to embrace elements of social presence theory, express themselves after a big moment, and see how others are expressing themselves. These findings have implications for sport professionals due to the impact on the value of advertisements for younger technology users who turn to texting and SNS instead of watching commercials. Also, professionals should capitalize on the importance Millennials place on SNS as a place to turn to during big moments in a game. Sport businesses will need to find new ways to reach this generation while leveraging the importance of texting, mobile apps, and SNS for Millennials during sporting events.

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Table 1: Items, Means, Standard Deviations, and ANOVAs for Three Conditions of Second Screen Use

Statement	Texting	Checking Apps	Using SNS	F	ANOVA Results		
	M (SD)	M (SD)	M (SD)		df	p	Wilk's Λ
1. Makes the experience of watching sports more exciting	3.37 (1.10)	3.02 (1.17)	3.50 (1.27)	21.53	2, 296	< .001	.873
2. Allows me to know how my friends are reacting to what they've just seen (a big play, a funny moment, etc.)	3.93 (1.00)	2.99 (1.23)	3.99 (1.15)	74.93	2, 298	< .001	.665
3. Allows me to quickly point out to my friends when my team does well or their team does poorly	3.94 (1.07)	3.09 (1.28)	3.82 (1.19)	55.34	2, 296	< .001	.728
4. Allows me to stay informed about other sporting events that I'm not watching on TV	4.05 (1.10)	3.64 (1.14)	3.76 (1.22)	18.56	2, 299	< .001	.889
5. Allows me to get instant expert analysis of what I'm watching	3.41 (1.23)	3.22 (1.20)	3.27 (1.35)	4.11	2, 297	.017	.973
6. Allows me to stay-up-to-date on game and player statistics	3.70 (1.21)	3.54 (1.16)	3.33 (1.29)	14.00	2, 292	< .001	.913
7. Allows me to track my fantasy teams	3.52 (1.47)	3.51 (1.34)	2.88 (1.43)	27.17	2, 291	< .001	.843
8. Allows me to express to others how I feel about what I watch (a big play, a funny moment, etc.)	3.95 (1.06)	3.14 (1.23)	4.01 (1.10)	57.14	2, 295	< .001	.721
9. Helps pass the time when the game is in commercial	4.23 (1.01)	3.88 (1.07)	4.19 (1.05)	18.44	2, 299	< .001	.89
10. Helps pass the time when the game is uninteresting	3.90 (1.05)	3.80 (1.07)	4.08 (1.04)	8.62	2, 299	< .001	.943
11. Allows me to get updates on injuries and storylines that the broadcast is not providing in a timely manner	3.54 (1.17)	3.50 (1.17)	3.54 (1.28)	.20	2, 296	.816	.999
12. Allows me to feel like I'm watching a game with friends	3.23 (1.24)	2.76 (1.32)	3.36 (1.28)	30.94	2, 294	< .001	.826

Table 2: Significant Follow-up Pairwise Comparisons

Comparison	Mean difference	<i>t</i>	<i>df</i>	<i>p</i>
<u>Makes the experience of watching sports more exciting</u>				
Texting vs. Checking apps	0.35	5.72	298	< .001
Checking apps vs. Using SNS	-0.48	-5.95	298	< .001
<u>Allows me to know how my friends are reacting to what they've just seen</u>				
Texting vs. Checking apps	0.94	11.84	299	< .001
Checking apps vs. Using SNS	-1.00	-11.01	301	< .001
<u>Allows me to quickly point out to my friends when my team does well or their team does poorly</u>				
Texting vs. Checking apps	0.85	10.47	297	< .001
Checking apps vs. Using SNS	-0.73	-7.81	301	< .001
<u>Allows me to stay informed about other sporting events that I'm not watching on TV</u>				
Texting vs. Checking apps	.41	5.69	301	< .001
Texting vs. Using SNS	0.29	4.00	300	< .001
<u>Allows me to get instant expert analysis of what I'm watching</u>				
Texting vs. Checking apps	0.19	2.54	300	.012
<u>Allows me to stay-up-to-date on game and player statistics</u>				
Texting vs. Using SNS	0.37	5.26	293	< .001
Checking apps vs. Using SNS	0.21	2.64	300	< .001
<u>Allows me to track my fantasy teams</u>				
Texting vs. Using SNS	0.64	7.09	295	< .001
Checking apps vs. Using SNS	0.63	6.33	296	< .001
<u>Allows me to express to others how I feel about what I watch (a big play, a funny moment, etc.)</u>				
Texting vs. Checking apps	0.81	9.91	297	< .001
Checking apps vs. Using SNS	-0.87	-10.23	299	< .001
<u>Helps pass the time when the game is in commercial</u>				
Texting vs. Checking apps	0.35	6.04	301	< .001
Checking apps vs. Using SNS	-0.31	-4.66	300	< .001
<u>Helps pass the time when the game is uninteresting</u>				
Texting vs. Using SNS	-0.18	-3.23	289	.001
Checking apps vs. Using SNS	-0.28	-4.02	288	< .001
<u>Allows me to feel like I'm watching a game with friends</u>				
Texting vs. Checking apps	0.47	6.77	297	< .001
Checking apps vs. Using SNS	-0.60	7.41	300	< .001

Table 3: Dimensions of Texting Usage When Watching Sports

Texting usage	Information gathering	Excitement	Fanship
Allows me to stay-up-to-date on game and player statistics	.836	.143	.270
Allows me to get updates on injuries and storylines that the broadcast is not providing in a timely manner	.738	.252	.227
Allows me to get instant expert analysis of what I'm watching	.685	.122	.284
Allows me to track my fantasy teams	.615	.193	.030
Allows me to stay informed about other sporting events that I'm not watching on TV	.566	.497	.067
Helps pass the time when the game is in commercial	.152	.791	.048
Helps pass the time when the game is uninteresting	.077	.679	.210
Allows me to express) to others how I feel about what I watch (a big play, a funny moment)	.271	.621	.305
Allows me to know how my friends are reacting to what they've just seen (a big play, a funny moment)	.309	.607	.357
Allows me to quickly point out to my friends when my team does well or their team does poorly	.352	.516	.221
Allows me to feel like I'm watching a game with friends	.193	.189	.768
Makes the experience of watching sports more exciting	.218	.292	.488

Note. Factor 1 (eigenvalue = 5.488) explained 45.7% of the total variance. Factor 2 (eigenvalue = 1.511) explains 12.6% of total variance. Factor 3 (eigenvalue = 1.036) explains 8.6% of total variance. The bold figures in the table indicate items that loaded on each factor.

Table 4: *Dimensions of Mobile App Usage While Watching Sports*

App usage	Social Connection	Information gathering	Diversion
Allows me to know how my friends are reacting what they've just seen (a big play, a funny moment)	.862	.196	.085
Allows me to express to others how I feel about what I watch (a big play, a funny moment, etc.)	.785	.255	.123
Allows me to quickly point out to my friends when my team does well or their team does poorly	.741	.365	.085
Allows me to feel like I'm watching a game with friends	.727	.216	-.044
Makes the experience of watching sports more exciting	.541	.407	.127
Allows me to stay-to-date on game and player statistics	.286	.781	.094
Allows me to get updates on injuries and storylines which the broadcast is not providing in a timely manner	.258	.730	.164
Allows me to get instant expert analysis of what I'm watching	.345	.671	.108
Allows me to track my fantasy teams	.152	.616	.116
Allows me to stay informed about other sporting events that I'm not watching on TV	.240	.571	.276
Helps pass the time when the game is in commercial	.024	.211	.977
Helps pass the time when the game is uninteresting	.098	.165	.761

Note. Factor 1 (eigenvalue = 5.560) explained 46.3% of the total variance. Factor 2 (eigenvalue = 1.804) explained 15% of the total variance. Factor 3 (eigenvalue = 1.210) explained 10.1% of the total variance. The

Table 5: Dimensions of SNS Usage While Watching Sports

Social networking site usage	Information gathering	Social Connection	Diversion
Allows me to get instant expert analysis of what I'm watching	.831	.209	.127
Allows me to stay-to-date on game and player statistics	.809	.325	.098
Allows me to get updates on injuries and storylines which the broadcast is not providing in a timely manner	.737	.285	.310
Allows me to track my fantasy teams	.671	.132	.053
Allows me to stay informed about other sporting events that I'm not watching on TV	.598	.347	.407
Allows me to quickly point out to my friends when my team does well or their team does poorly	.239	.805	.251
Allows me to know how my friends are reacting what they've just seen (a big play, a funny moment, etc.)	.205	.795	.361
Allows me to express to others how I feel about what I watch (a big play, a funny moment, etc.)	.247	.619	.210
Makes the experience of watching sports more exciting	.416	.597	.219
Allows me to feel like I'm watching a game with friends	.402	.520	.139
Helps pass the time when the game is in commercial	.151	.350	.886
Helps pass the time when the game is uninteresting	.171	.282	.797

Note. Factor 1 (eigenvalue = 6.552) explained 54.6% of the total variance. Factor 2 (eigenvalue = 1.633) explained 13.6% of the total variance. Factor 3 (eigenvalue = 0.920) explained 7.7% of the total variance. The bold figures in the table indicate items that loaded on each factor.