

Perceived Emotional Synchrony in Virtual Watch Parties

by

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I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

The appeal of many leisure activities emerges from “shared experience,” wherein participants feel an emotional synchrony with fellow participants. Essentially, participants’ emotions are enhanced by their awareness of and agreement with others’ emotional state. The physical presence of others has always been considered a necessary condition for such synchrony. Yet, recent anecdotal evidence suggests this may not be the case. Specifically, virtual settings (e.g., online gaming, live-streaming concerts) in which others’ physical presence is absent may also have the capacity to generate perceived emotional synchrony. Drawing primarily from shared attention theory, this dissertation explores conditions for perceived emotional synchrony in the context of virtual watch parties. It focuses on how such synchrony relates to positive emotional responses to the experience.

Findings from a survey of participants’ experiences within virtual watch parties suggest that such experiences represent opportunities to connect with others, especially during the ongoing COVID-19 pandemic. Findings from an experiment involving those same participants suggest that, as expected, perceived emotional synchrony was positively associated with positive emotional responses: positive emotional state, overall enjoyment, and willingness to share the video with friends. Emotional synchrony rendered the experience more worthwhile. This relationship held while controlling for trait-like tendency to experience emotional synchrony and self-reported shared attention.

Importantly, we were able to create this synchrony among participants who were physically alone as they watched an online event. Results suggest that *shared attention*, the

perception that “we” are attending together, encourages perceived emotional synchrony in virtual experiences. *Mentalization*, thinking about co-attendees’ experiences, helped to explain the relationship between shared attention and perceived emotional synchrony. Findings from the experiment further suggest that the social context of shared attention further influenced perceived emotional synchrony. Perceived emotional synchrony was highest when backchannel communication, the exchange of text-based messages with other participants during the experience, was present. This was the case regardless of the level of shared identity between participants.

These findings offer new insights regarding conditions for creating shared experiences. They demonstrate that others’ physical presence is not necessary for perceptions of emotional synchrony. Rather, a sense that others who are located elsewhere are co-attending to a shared event can contribute to such synchrony. Sharing attention encourages participants to think about others’ experiences and compare those to their own emotional states, resulting in a sense of connection. Further, these findings demonstrate the importance of backchannel communication in the creation of shared experiences. Whether participants identified with co-viewers, text-based exchanges provided a window to others’ emotions, adding to perceived emotional synchrony.

Ultimately, the dynamics of emotional connection resulted in more positive emotional responses to a shared event. This insight has profound implications for leisure providers. Physical proximity is less critical if providers offer tools that enable the exchange of emotional information. In doing so they can render virtual spaces capable of supporting shared experiences. Such experiences have important implications for the development

interpersonal relationships, individual and community well-being, and client repatronage outcomes. This exploration of perceived emotional synchrony is essential to our evolving understanding of leisure service delivery.

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Dedication

For Avery and Franny, and for all those who sought connection when they could not be physically together with others.

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Chapter 1: Introduction

People are inherently social creatures. We spend a great deal of our lives experiencing the world with others. When individuals share experiences together, they may perceive a connection, or synchrony, between their personal experience and others' experiences. Specifically, they might perceive that their emotional state within the experience is shared by others. This perception is called perceived emotional synchrony (Páez et al., 2015). For instance, an individual who attends their favourite annual event might perceive that their joy is mirrored in the face of others at the event. Such perceptions have implications for individuals and the providers who organize such experiences. The greater the perceived emotional synchrony, the more enjoyable the experience (Stieler & Germelmann, 2016) and the stronger participants' intentions to repatronize the experience in the future (Jahn et al., 2018).

We have always assumed that the physical presence of others is a necessary condition for perceived emotional synchrony. Any student of history understands that the passions of the crowd can shape the emotional response of any observer. The resulting perception of emotional synchrony can lead to collective acts both great and small. Durkheim (1912) observed that such synchrony required "that men [sic] are assembled, that sentiments are felt in common and expressed in common acts" (p. 431-432). This assumption has continued to inform our understanding of perceived emotional synchrony. Włodarczyk et al., (2020) recently asserted that "a necessary condition [for perceived emotional synchrony] is the co-presence of other people physically gathered in a demarcated place and a degree of awareness of the presence and interaction with them" (p. 2).

It is intuitive to assume the importance of the physical presence of others in creating shared experiences. When people gather, their shared physical presence facilitates processes of behavioural synchrony, mimicry, and emotional contagion (Hatfield et al., 2014). Such processes can contribute to perceived emotional synchrony (Páez et al., 2015). Indeed, those who gather work together to create a shared and often positive experience (Stieler & Germelmann, 2016). Picture how the applause of thousands of concert goers might create the experience of connection to all those present at the venue.

Experience providers have long been aware of this phenomenon. Whether organizing festivals, sporting events, classes, or clubs, they have asked participants to convene in shared spaces. Venues such as concert halls, stadiums, and gymnasiums are the settings of much leisure activity. Traditionally, they have been the settings in which perceived emotional synchrony is strongest (Gabriel et al., 2020). In such settings, providers arrange participants in ways that highlight the physical presence of the other. Proximity to others is maximized and coordinated behaviours are encouraged. For example, sports spectators are invited to “make some noise!” Being together in a shared space in that moment can create a shared experience that echoes throughout the crowd (Stieler & Germelmann, 2016).

The importance of others to the experience is not limited to large-scale events typically associated with sport spectatorship. Social dynamics with small groups also influence how individuals experience leisure pursuits. The experience of watching television is enhanced by the physical presence of others (Gabriel et al., 2020). The more people present, the greater the sense of emotional connection to fellow viewers, and the more positive the emotional reaction to the episode. Gaming research (e.g., Kappen et al., 2014)

refers to such dynamics as co-located audience effects. It suggests that mundane social interaction between players who occupy a shared space can drive players to become more engaged in the shared experience. Clearly, when others are present, such presence can contribute to synchrony and enjoyment.

However, recent events have challenged assumptions regarding the *necessity* of others' physical presence in the creation of perceived emotional synchrony. Now more than ever before, individuals are "connecting" with each other in virtual settings. The growth of virtual experiences (sometimes called "digital leisure," see Silk et al., 2016) such as online gaming to live-streamed concerts suggests tremendous opportunity to share experiences with others. Consider that millions of people live streamed Andrea Bocelli's "Music for Hope" concert in April 2020 (Spangler, 2020). One viewer wrote of their experience: "I live alone, but when Maestro Bocelli was singing, I felt that millions of souls were alongside me, Praying for what all of us yearn for: the freedom to be together again" (Nancy Foster, April 16, 2020). Although this viewer was not physically present with other viewers, they perceived that their experience was shared by millions of others.

The anecdote above suggests that perceived emotional synchrony might emerge in virtual experience settings where others' physical presence is absent. Yet, how such synchrony is possible in virtual settings is unclear. The physical processes of emotional expression, mimicry, and contagion that occur in shared physical spaces and that seem central to creating shared experiences are typically absent in virtual experiences. Consider that virtual "spectators" who watch live-streamed games and sports might feel emotionally

connected to each other, despite having no access to others' physical expressions of emotional states.

This conundrum suggests that we need to re-examine the conditions under which shared experiences emerge. The goal of this dissertation is to understand conditions for perceived emotional synchrony within virtual experiences. A secondary goal is to understand how such synchrony influences the quality of virtual experiences. The central thesis of the dissertation is that the dynamics of shared attention are important to understanding when and why virtual experiences become “shared” experiences.

1.1 Shared Attention

Shared attention is the perception that “we” are attending to something together, as opposed to that “I” am attending alone (Shteynberg, 2015). Such attention may be relevant to understanding perceptions of emotional synchrony in virtual settings because it may be associated with feelings of connection to co-attendees. Under shared attention, individuals often perceive others as similar and likeable (Boothby et al., 2014). Such feelings of interpersonal closeness have been associated with perceived emotional synchrony (Páez et al., 2015).

Importantly, shared attention does not require the physical presence of others. It transcends physical spaces and may emerge in virtual experiences. Indeed, as Shteynberg (2015) notes, “the potential for attending with others has increased with the emergence of mass media technologies, which allow for the sharing of attention in the absence of physical co-presence” (p. 580). This separates shared attention from other conditions thought

important to perceived emotional synchrony in analog settings, such as coordinated behaviours in close physical proximity (Páez et al., 2015).

Additionally, this dissertation considers how the social context in which attention is shared influences perceived emotional synchrony. Social context is the characteristics of a social situation, defined in terms of the degree of interaction between individuals and the relationship between individuals (Ibañez & Manes, 2012). Attention may be shared in the absence or presence of social interaction. Consider that millions of people attend to the Superbowl each year. Many may be aware of their shared attention despite no interaction with co-attendees. Alternatively, attention may be shared among a small group of dedicated online gamers. As these examples suggest, shared attention may involve strangers or intimate relationships. Such social context factors often influence how shared attention influences individuals' experiences (Boothby et al., 2014, 2016). They may also help us understand when and why perceived emotional synchrony emerges in virtual experiences.

1.2 Social Context

As mentioned, attention may be shared with or without social interaction. Typically, such interaction refers to the degree of interpersonal communication. In virtual settings, such communication has been labelled backchannel communication (McCarthy & Boyd, 2005). Specifically, backchannel communication refers to the exchange of text messages during an experience. Such communication is an increasingly common feature of virtual experiences. Consider that individuals who live stream content from platforms such as YouTube and Twitch.tv interact with each other during the experience through backchannel

communication. Providers of television and movie content such as Netflix also offer tools for backchannel communication during shared streaming experiences.

Backchannel communication may alter how shared attention relates to perceptions of emotional synchrony. The presence of backchannel communication provides evidence of others' experiences. Text is an emotionally rich medium and many people share their emotions with other during an experience through typed word (Kramer et al., 2014). As such, backchannel communication provides a cue about what it is that others are experiencing. This may simulate some of the emotional exchange processes that are important to perceptions of emotional synchrony in analog settings (Luo et al., 2020). This suggests that backchannel communication may be essential to understanding perceived emotional synchrony in virtual settings.

The social context of shared attention also varies in terms of interpersonal relationships between co-attendees. Such relationships have been described in various ways (Clark et al., 2017). One such way that is of interest here is that of shared identity. Shared identity is the perception of self and others as members of a shared identity category (Hopkins et al., 2016). For example, a concert goer might perceive a shared identity with others in attendance who demonstrate a shared passion for the band (Neville & Reicher, 2011). Cues ranging from appearance to behaviour can suggest others' identities, and such identities are compared against one's own salient sense of self to determine the extent to which self and other are alike (Neville & Reicher, 2011).

Perceptions of shared identity influence perceptions of others and interpersonal interactions with them (Neville & Reicher, 2011). The greater the shared identity, the more

trusting individuals are of each other (Neville & Reicher, 2011). Such mutual trust provides opportunities for emotional displays and the contagion of such displays which can lead to a sense of shared experience (Páez et al., 2015). Further, shared identity may interact with backchannel communication within the social context of shared attention to influence perceived emotional synchrony. For instance, in the absence of backchannel communication, individuals may be more likely to perceive that they feel the same as those who share their identity because individuals believe they can intuit the feelings of close others (Smith & Mackie, 2016) and project their own experiences unto such others, even when it is inaccurate to do so (Savitzky et al., 2011).

1.3 Perceived Emotional Synchrony and Positive Emotional Responses

Ultimately, participants and providers are interested in creating high-quality experiences (Rossman & Ellis, 2012). Emotions are the building blocks of such experience (Bastiaansen et al., 2019) and so the quality of an experience may be best described in terms of participants' emotions. Emotions, such as joy or sadness, represent the positive or negative implications of situations for the individual (Bagozzi et al., 1999; Schwarz & Clore, 2007). While emotions often involve a sense-making process and various bodily processes, this dissertation is primarily concerned with emotional experience, or the *feeling* of an emotion (see Bagozzi et al., 1999).

The dynamics of shared experiences seem to influence emotions. Shared attention can amplify emotional responses (Boothby et al., 2014; Shteynberg et al., 2014), potentially rendering pleasurable experiences even more pleasurable. As well, perceptions of emotional

synchrony may be associated with several positive emotional responses (Páez et al., 2015) that remain after the experience has concluded (Bouchat et al., 2020).

The interrelationships between shared attention, perceived emotional synchrony, and the quality of participants' experiences have not been examined in previous research. Further, we know even less about how the dynamics of shared experiences unfold in virtual settings, where shared attention and perceived emotional synchrony are not based on the physical presence of others. Exploring such dynamics would inform our understanding of the role of others in virtual experiences, which is greatly needed in both the service (Bolton et al., 2018) and leisure (Wood et al., 2019) literatures. Indeed, as Schultz and McKeown (2018) stated, "for leisure scholars to stay relevant in our current society, the topic of digital leisure spaces and cultures should become a central rather than periphery focus" (p. 223). This dissertation seeks to extend our understanding of how shared attention and perceived emotional synchrony relate to emotional responses in virtual settings.

1.4 Importance of this Dissertation

To reiterate, this dissertation explores how shared attention might influence perceived emotional synchrony and how these jointly may influence the quality of virtual experiences. Such exploration may help us to rethink the necessity of others in the creation of desirable shared experiences. This is important given the recent growth of interest in and provision of virtual experiences. Last year, 1 million viewers tuned in together to watch the "Tomorrowland" music festival. This is more than twice the attendance of a typical year (Rose, 2020). Peloton, provider of live-streaming spin and fitness classes, recently hosted a class with a mind-boggling 23,000 participants (Newcomer, 2020). Even Airbnb,

traditionally a platform for vacation rental advertisements, now advertises virtual experiences (see Figure 1). Through Airbnb, people can share experiences ranging from pasta making to escape rooms—all without gathering in a physical place. These examples demonstrate the sheer magnitude of opportunities for sharing experiences in an increasingly virtual world.

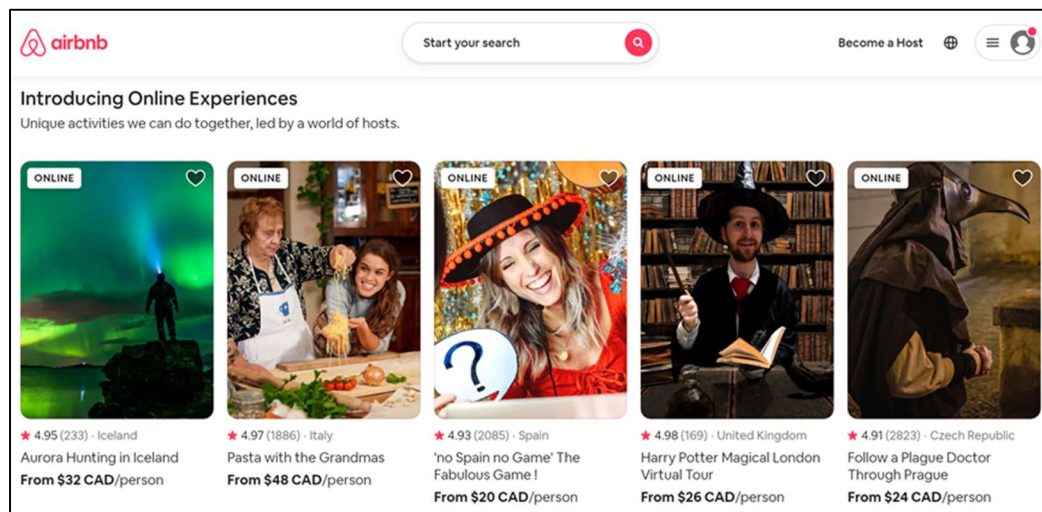


Figure 1. Screenshot of Airbnb website as an example of the growth of virtually “shared” experiences.

Of course, the growth of such virtual experiences seems to be driven by the ongoing global COVID-19 pandemic. Since early 2020, individuals worldwide have experienced changes to the availability of favoured leisure services. At the time of this writing, access to many such services has been restricted and others have been cancelled altogether. As mentioned earlier, such services offer opportunities to be with others and to experience emotional synchrony with them (Gabriel et al., 2020). In times of uncertainty such as these, individuals desire more—not less—connection to others (Hogg et al., 2007). Consequently,

the COVID-19 pandemic seems to be driving demand for virtual experiences, perhaps because they offer alternative access to perceived emotional synchrony. The present research seeks to make sense of the growing interest in virtual experiences from the perspective of shared experiences.

Further, the negative effect of the COVID-19 on leisure behaviour and individual well-being has been well-documented (e.g., Lesser & Nienhuis, 2020). Traditionally, participation in such activities is positively associated with well-being in part because it provides opportunities for rich and healthy social interaction (Newman et al., 2014). Relatedly, when such activities encourage perceptions of emotional synchrony, they also enhance well-being (Bouchat et al., 2020; Páez et al., 2015; Zumeta et al., 2016a). Thus, understanding conditions for perceived emotional synchrony and the contribution of such synchrony in virtual settings during COVID-19 may help us understand how to enhance the well-being of those who are physically separated from others.

1.5 Purpose, Context, and Research Questions

The purpose of this dissertation is to develop an understanding of the conditions for perceived emotional synchrony. More than that, it seeks to understand the conditions that render such synchrony possible in the absence of others' physical presence, in virtual experiences. Drawing primarily from shared attention theory, it explores the relationship between shared attention and the social context in which it is shared and perceived emotional synchrony. Further, the dissertation explores the contribution of these shared experience dynamics (shared attention and perceived emotional synchrony) to the quality of the virtual experiences.

Virtual watch parties provide a context in which to explore these relationships. A watch party, sometimes called “co-viewing,” is an activity in which individuals watch content together at the same time. It may unfold in a shared physical space, such as when sports fans congregate in “fan parks” or “fan zones” to watch their preferred teams play (Ludvigsen, 2021). Alternatively, *virtual* watch parties occur in virtual spaces. In such spaces, individuals may watch the same content at the same time as one another, separated by physical distance. Such parties were of interest because they have been identified as opportunities to “connect” with others (Hacker et al., 2020), yet their potential for creating perceived emotional synchrony is unclear. As well, virtual watch parties vary in social context: some are more intimate while others involve thousands of others. As such, they provide a convenient opportunity to study how virtually shared experiences emerge.

The following research questions guide the dissertation:

- Research Question 1: How is the COVID-19 pandemic associated with participation in key virtual experiences (such as virtual watch parties)?
- Research Question 2: How is shared attention associated with perceived emotional synchrony?
- Research Question 3: How is perceived emotional synchrony associated with positive emotional responses?

1.6 Organization of the Dissertation

The dissertation is organized as five chapters. Following this chapter, Chapter 2 offers a review of relevant literature. Hypotheses about the relationships between shared attention, perceived emotional synchrony, and experience quality are offered in that chapter. Chapter 3

describes the research method used to examine such hypotheses to address the research questions offered in this chapter. Chapter 4 presents the results of the research. Chapter 5 offers a discussion of the results in relation to the literature on perceived emotional synchrony and leisure.

Chapter 2: Literature Review

2.1 Chapter Overview

This chapter is organized as five sections. The first section presents the concept of perceived emotional synchrony. The second section reviews the role of others' physical presence in creating such synchrony. The third section described the growth of virtual experiences as opportunities for perceived emotional synchrony. The fourth section proposes that shared attention and its social context are relevant to understanding shared experiences. The fifth section reviews the importance of perceived emotional synchrony to the quality of participants' experiences.

2.2 Perceived Emotional Synchrony

The term “shared experience” is commonplace. Often, that term is used to describe a particular moment in which two or more people perceive that their personal emotional response to an external event is shared by others. For instance, people talk about the shared experience of a favourite television episode. Their joy is recognized as being shared by the other. In this dissertation, such a phenomenon is labelled perceived emotional synchrony (Páez et al., 2015).

Critically, perceived emotional synchrony is not synonymous with other terms used to describe shared experiences. The terms collective emotions (Garcia & Rimé, 2019) and group affect (Barsade & Gibson, 2012) are also used to describe such experiences. However, these terms differ from perceived emotional synchrony in terms of perception. Whereas perceived emotional synchrony suggests the subjective experience of shared emotions,

collective emotions and group affect suggest an objectively measured synchrony of emotional states.

Additionally, the term emotional climate (De Rivera & Páez, 2007) has been used to describe the subjective experience of shared emotions, but it differs from perceived emotional synchrony in terms of perspective. Whereas perceived emotional synchrony is a perceived synchrony between one's own emotions and others' emotions, emotional climate describes a perceived synchrony of emotions within a collective of which the individual may or may not be a part.

Importantly, the subjectiveness of perceived emotional synchrony suggests that the accuracy of such perceptions is not important. Whether one's emotions and others' emotions are actually synchronized is irrelevant to perceived emotional synchrony. It is common for emotions to become synchronized beyond individuals' awareness (Ramanathan & McGill, 2007) and for individuals to perceive emotional synchrony where none exists (Boothby et al., 2014). Indeed, people often misunderstand how their experiences relate to others' experiences (Baimel et al., 2015; Wheatley et al., 2012). Such inaccuracies are unimportant to the present research.

2.3 Perceived Emotional Synchrony and Leisure

Perceived emotional synchrony is common in everyday life. Most people have experienced it at some point (Gabriel et al., 2017) and many people experience it on a regular basis (Gabriel et al., 2020). Even the most mundane settings offer opportunities for such synchrony. Waiting in line at the grocery store, for example, can result in a sense of shared experience among those in the queue (Gabriel et al., 2020). This is not surprising given an

innate tendency to observe and respond to others' emotions (Wheatley et al., 2012). Seeking emotional synchrony seems an important part of our evolutionary past, which suggests that many people will find such synchrony in everyday activities (Wheatley et al., 2012).

Leisure settings seem to offer opportunities for perceptions of emotional synchrony. Gabriel et al. (2020) asked research participants to identify the activities or settings in which they perceived emotional synchrony (called "collective effervescence" in that study) with others. Responses included attending concerts, watching sports, playing sports, playing games with friends, working out at a gym, walking in the park, and going to special events. This sounds like a list of typical leisure activities.

Indeed, the prevalence of shared experiences in leisure settings is well documented in the leisure literature. We have known for some time that leisure participants may sense emotional connections to others in settings such as concerts (Harmon, 2016; Jahn et al., 2018; Neville & Reicher, 2011), cultural celebrations (Páez et al., 2015), special events (Bouchat et al., 2020; Hindley, 2020; Kyle & Chick, 2004; Wood, 2020), sport spectatorship (Stieler & Germelmann, 2016), team sports (Tamminen et al., 2016), and outdoor recreation (Arnould & Price, 1993; Kane & Zink, 2004).

A common theme among such activities is the physical presence of others. Leisure is often a social pursuit that involves other people (Argyle, 1996). It manifests in stadiums packed full of cheering fans, parks filled with families, and concert halls crowded with adoring patrons. There seems to be something important about such shared physical spaces to the creation of shared experiences. Since Durkheim (1912), we have assumed that

congregating together is the first step toward the emergence of perceived emotional synchrony.

2.4 Others' Physical Presence

Others' physical presence may facilitate perceived emotional synchrony because such presence enables processes of emotional contagion. Emotional contagion is the transfer of emotional states from one person to another person (Hatfield et al., 2014). It occurs through a chain of effects that are triggered by others' emotional displays, overt enactments of emotion typically involving facial or body gestures and verbal communication (Gross, 1999). Our inherently social nature suggests a need to be understood (Hollan, 2008). We use emotions as tools to communicate so that we are understood by others. The physical presence of others activates a need to be understood by such others and so it encourages emotional displays (Chapman, 1975).

Exposure to emotional displays can lead to mimicry. When others display their emotions, observers tend to mimic such displays (Hatfield et al., 2014). For instance, it is well-documented that laughter is contagious. When one person laughs, smiles, or displays happiness, others respond by smiling, too (Barger & Grandey, 2006). Such mimicry is stronger when people are gathered in close physical proximity and weaker when they are separated by physical distance (Lougheed et al., 2016).

In turn, emotional displays that are mimicked can influence individuals' emotions in a process called afferent feedback (Hatfield et al., 2014). For instance, the individual who mimics a friend's smile may feel happier as a result (Barger & Grandey, 2006).

Consequently, the individuals involved in emotional contagion may experience shared

emotions. One person's happiness is shared with the other and both feel happy at the same time. This suggests that emotional contagion is a plausible and likely explanation for the perceived emotional synchrony that often occurs in shared spaces (Páez et al., 2015).

Of course, the physical presence of others is unlikely to guarantee perceived emotional synchrony. There are other factors that may determine when the physical presence of others is most likely to result in perceived emotional synchrony. Some such factors are tied to physical spaces and the way that people are arranged and interact in such spaces. The degree of physical proximity to others is one such factor. When people gather in shared physical spaces, perceptions of emotional synchrony seem strongest when individuals are physically close to one another (Liebst, 2019; Neville & Reicher, 2011). For instance, shared experiences may be especially potent at the epicenter of a concert, where the individual is surrounded by others (Liebst, 2019).

Behavioural synchrony may be relevant to others' influence on perceived emotional synchrony, too. Behavioural synchrony is the coordination of individuals' movements such that each person moves together to a shared rhythm (Reddish et al., 2016). Behavioural synchrony is a common feature of many activities in which people convene, especially those described as leisure. As examples, when attending a concert, people sway and move as though they were part of a single entity, and at sporting events, fans perform "the wave." Such coordinated behaviours have been implicated in the creation of perceived emotional synchrony (Durkheim, 1912; Rennung & Göritz, 2016; Stieler & Germelmann, 2016). They may signal shared kinship (Wheatley et al., 2012) which encourages the sharing and eventual

synchrony of emotions (Páez et al., 2015). These insights further suggest the importance of others' physical presence to perceived emotional synchrony.

2.4.1 Individual and Relational Influences

Individual and relational factors also conspire with aspects of others' physical presence to generate perceptions of emotional synchrony. As mentioned earlier, most people are sensitive to others' emotions and even desire synchrony with them (Wheatley et al., 2012). However, some people seem to be more interested in shared emotional experiences than others and will actively seek out situations in which they can feel more connected to others (Gabriel et al., 2017). Individuals who are most interested in shared emotional experiences also situate themselves in closer physical proximity to others in shared spaces (Liebst, 2019).

Also, some people seem to be “better” at establishing synchronous emotional connections than others. Variables such as gender and culture seem relevant to such connections. Women report greater emotional synchrony with others than men, perhaps because women are more aware of and responsive to others' emotional displays (Doherty et al., 1995). Also, people from collectivist cultures may experience greater emotional unity with others compared to those from individualistic cultures (Markus & Kitayama, 1991). These propositions are consistent with the emotional contagion literature which suggests that certain individual differences render some people more susceptible to emotional contagion than others (Hatfield et al., 2014).

In one experiment (Lamm et al., 2007), participants were brought into the lab and asked to perform a task in which they observed another person experiencing pain. The

researchers measured participants' own pain responses following such observation. Results suggested that participants' trait-like empathy (tendency to respond to others' emotions) was positively associated with "catching" others' pain. The more empathetic they were, the more they experienced pain. Consequently, the shared emotional state (in this case, pain) was a result of both shared physical presence of the other and their behaviours and individuals' own characteristics.

Additionally, relational factors can influence how shared physical presence influences perceived emotional synchrony. When people gather, the closeness or distance of their relationship (e.g., degree of familiarity, similarity, and trust; see Clark et al., 2017 for a discussion of relational distance) can amplify or buffer emotional contagion processes, respectively. Emotional contagion is strongest among relationally close individuals and weakest among relationally distant ones (Martin et al., 2015). Not surprisingly then, perceptions of emotional synchrony are strongest when those who gather identify with one another, such as when they are fans of the same sports team (Neville & Reicher, 2011; Stieler & Germelmann, 2016; von Scheve et al., 2014).

In summary, others' physical presence provides opportunities for the emergence for perceived emotional synchrony. It activates emotional displays which are often mimicked and lead to such synchrony. It also offers opportunities for bodies to move in unison which also contributes to the creation of shared experiences, especially when people are arranged near one another. These dynamics are amplified by individual and relational factors. They are strongest among those who self-select into shared spaces and who are open to sharing emotions, and in situations where the relationship between those present is close. These

characteristics are pervasive in the leisure settings that most strongly produce perceived emotional synchrony. However, they may not be *necessary* to the creation of perceived emotional synchrony. The remainder of this dissertation explores this proposition further.

2.5 Virtual Experiences

People are connecting with each other in virtual experiences more than ever before. Virtual experiences are those in which individuals consume digital content such as live streamed concerts, online gaming, and virtual fitness classes. Such experiences are increasingly popular leisure pursuits worldwide (Rojas de Francisco et al., 2016; Sintas et al., 2015). Indeed, according to Schultz and McKeown (2018), there is “a global trend in leisure preferences toward spending leisure time engaged in digital leisure practices and spaces (Schultz & McKeown, 2018, p. 225). This trend is especially evident now, during the ongoing COVID-19 pandemic. When the World Health Organization declared COVID-19 a pandemic in March 2020, governments implemented physical distancing policies. Many of these included restrictions on access to social gatherings (Government of Canada, 2021).

More than that, such policies influenced how people sought social connections with others through leisure. Practically all providers of sport, recreation, hospitality, tourism, and event services were mandated to reduce or even cease service delivery. Consequently, access to the activities, places, and people associated with shared experiences were inaccessible. In response, many leisure providers reimagined analog services as virtual experiences. For example, the “Infringing” festival in Nanaimo, British Columbia, was successfully transformed into a live-streamed experience (Nanaimo News Staff, 2020). Instead of asking

patrons to gather in a physical space, the organizers presented musical talent in a virtual space. The resulting event was accessible to anyone with an internet connection.

Such virtual experiences have exploded in popularity in recent years, especially as physical distancing policies continue to be in effect. Several examples of the sheer scale of such experiences were offered in Chapter 1. Consider also that an estimated 20.7 million people tuned in to watch the “One World: Together at Home” concert in April 2020 (Nielson, 2020). The number of people who have tuned in together to such experiences is absolutely staggering. These examples suggest tremendous opportunity to create innovative experiences that are uncoupled from physical spaces. As McGillivray (2014) stated, new technologies provide new opportunities for people to “escape the restrictions of geography and the everyday to engage in new experiences” (p. 97).

It has already been suggested that virtual experiences are important opportunities for creating a sense of connection and community (Han & Lee, 2014; Sjoblom & Hamari, 2017). Yet, the potential of virtual experiences for creating perceived emotional synchrony has not been examined. Some have commented that “the emotional energy of collectively experiencing an event [is] no longer possible” because of COVID-19 (van Leeuwen et al., 2020). Similarly, it has been suggested (see Jamieson, 2013) that the growing digitalization of lives will diminish personal relationships in society. However, other anecdotal evidence mentioned in Chapter 1 suggests the opposite, that virtual experiences provide tremendous opportunity for perceived emotional synchrony. This dissertation addresses this conundrum using shared attention theory.

2.6 Shared Attention

Shared attention “is simply a perception that *we are attending* to something” (Shteynberg et al., 2016, p. 665, emphasis in original). When people gather, such shared attention is rendered salient by others’ behaviours. Picture thousands of fans looking toward a musical act on stage, everyone’s eyes fixed on the band. Such shared gaze suggests shared attention because gaze signals the direction of one’s attention (Baron-Cohen, 1995). It is no surprise then that events in which gaze is focused on a single target (e.g., a religious ceremony, a musical event) are settings in which perceived emotional synchrony is strongest (Páez et al., 2015). The role of shared attention as an antecedent of such experiences is implied in the literature (e.g., Páez et al., 2015; Włodarczyk et al., 2020).

As mentioned earlier, the difference between shared attention and other potential conditions for perceived emotional synchrony is that such attention transcends the boundaries of physical space. It is conceivable that people from anywhere in the world could perceive that they are co-attending to something at the same time as others are doing the same (Shteynberg, 2015). Indeed, shared attention in virtual experiences seems pervasive in everyday life. Millions of people watch scheduled television programs from their own private spaces at the same time as each other. It seems plausible that some such individuals are aware of fellow viewers and perceive that their attention to the show is shared by them (Shteynberg et al., 2016). Thus, unlike dynamics tied to others’ physical presence, shared attention may uniquely contribute to perceived emotional synchrony in virtual experiences.

Whether shared attention is established in virtual experiences may depend on several factors. First, the individual must be aware of the other. Shared attention is unlikely for those

who are unaware of others because such attention depends on a perception that “we” (i.e., me and someone else) are attending together (Shteynberg, 2015). Second, shared attention requires synchronicity: that the individual and the other(s) attend at the same time (Shteynberg et al., 2014). Consider that a person might watch a pre-recorded show and their friend might watch that same show at some other time. They might later share stories that suggest a similar emotional reaction to the show. But, while watching, shared attention would be unlikely because the viewing experiences are not synchronous with each other.

Shared attention is also most likely to occur when there is some evidence that others are actually attending to the same thing as the individual. Again, when people are gathered their attention is obvious from their gaze. When co-attendees are physically separated from the individual, evidence of their shared attention is missing. Indeed, previous research (Boothby et al., 2016) has shown that the effects of shared attention on individuals’ experiences are typically buffered by physical distance. Information about others’ shared attention, such as a reminder that others are viewing with the individual (Shteynberg et al., 2016), may help to establish shared attention in the absence of others’ physical presence.

Shared attention may be positively associated with perceived emotional synchrony in virtual experiences because of mentalization. Mentalization means to think about the content of others’ minds, their thoughts, and their emotions—in other words, their experiences (Boothby et al., 2014). When shared attention is absent, mentalization is unlikely (Bhargave et al., 2018, study 4). Consider that an individual watching an interesting television show alone will most likely focus on the show. They might wonder what others who have watched the show thought about it, but they are unlikely to mentalize about co-attendees’ experiences

because there are no such co-attendees. Conversely, when shared attention is apparent, individuals mentalize more about others' experiences (Bhargave et al., 2018).

In turn, mentalization may lead to a stronger perception of emotional synchrony. Perceived emotional synchrony requires a mental model or representation of others' experiences. Mentalization produces such a model which can then be used to make assessments of others and the relationship between their experiences and one's own (Smith & Mackie, 2016). Thus, it may serve as a necessary precursor to perceived emotional synchrony. Further, this suggests that without mentalization, the mental model of others' experiences is "empty" or unclear. Consequently, failure to mentalize renders comparisons of one's own experience and others' experiences, and in turn perceptions of emotional synchrony, unlikely.

Critically, because mentalization is subjective, it may result in perceived emotional synchrony even when such synchrony is inaccurate. Mental processes are often subject to personal biases (Kahneman, 2011), and mentalization is no exception. Mentalization is egocentric. It is based on one's own assumptions about others' experiences which are informed by one's own experience in the world. As such, when mentalizing about others' experiences, people often assume that others' experiences are like their own, a phenomenon called projection (Baimel et al., 2015; Crisp & Turner, 2009; Savitzky et al., 2011).

In one study (Boothby et al., 2014, study 2) participants were invited into the lab and asked to eat a piece of chocolate that was predetermined by the researchers to be unpleasant. A second person, ostensibly another participant but in fact a confederate of the study, was present. In one condition, the confederate and the participant ate chocolate together.

Unbeknownst to the participant was that the confederate ate a pleasant tasting chocolate. Many of the participants reported feeling on the same “wavelength” as the confederate, an indicator of their perceived emotional synchrony. They likely mentalized about their partner’s shared reaction to the chocolate. But, given the confederate’s role and that they ate a different chocolate, actual emotional synchrony was unlikely. Projection of the participants’ own experience unto their mental model of the co-attendee’s experience resulted in perceived emotional synchrony. Building from this finding in the context of virtual experiences, the following hypothesis is offered:

Hypothesis 1: shared attention will be positively associated with perceived emotional synchrony.

2.7 The Role of Social Context

Shared attention is an inherently social phenomenon because it requires awareness of the other and the direction of their attention. As such, shared attention exists in a social context. Such context varies between experiences. In some, the context is interactive and in others it is not. Sometimes it is intimate and other times it is comprised of strangers with no previous relationship to each other. Previous research has shown that such contextual dynamics modify the effects of shared attention on individuals’ shared experiences (Boothby et al., 2014; Shteynberg et al., 2014). This dissertation builds on such earlier research to better understand the role of social context in the relationship between shared attention and perceived emotional synchrony within virtual experiences. Two factors are used to define social context of shared attention: degree of social interaction (in this case, the presence of

backchannel communication) and type of closeness of interpersonal relationships (in this case, shared identity).

2.7.1 Backchannel Communication

Social context is in part defined by the degree of interaction between individuals in each setting. In virtual settings, such interaction has been labelled computer mediated communication (CMC; Kiesler et al., 1984). Both video-based CMC and text-based CMC have been offered within virtual experiences. For instance, online fitness classes offered by Peloton include person-to-person video feeds. Participants can watch and speak to each other as they engage with the class. Text-based CMC is also popular on several virtual platforms. Participants are offered the opportunity to exchange text-based messages with each other as they engaged in virtual content together.

Video-based interaction has been implicated in shared experiences in virtual settings (Brubaker et al., 2012; Muntean et al., 2015; Neustaedter et al., 2020). When people connect from different locations, video communication may contribute to a sense of shared experience because it offers visual cues about others' experiences. Video provides access to facial expressions and other body language in a way that may give greater insight into others' thoughts and feelings. The opportunity to see others' emotional displays within the context of a shared event might generate a deeper understanding of others' experiences (Brubaker et al., 2012). However, this is not the focus of the present study.

Text-based CMC is of interest here because it is much more pervasive than video-based CMC in virtual experiences. Increasingly, providers seek to offer opportunities for participants to exchange text-based messages with one another during a virtual experience

(Haimson & Tang, 2017). The term backchannel communication is used in this dissertation to describe opportunities to exchange such messages. This term suggests that participants may exchange messages with one another *during* the experience, through a “backchannel” (e.g., smart phone), in this case one integrated into the offering itself (Chen et al., 2017; Nagy & Midha, 2014). For example, Netflix now offers opportunities for participants from multiple households to simultaneously exchange messages and co-view content together.

Traditionally, backchannel communication has been criticized as distracting from shared events. The fear was that turning attention to such communication would result in missed moments (Ayer & McCarville, 2020). For example, some may think that a walk in the park is ruined by the exchange of texts. Similarly, watching live sports, it has been claimed, would be less engaging when backchannel communication is present (Ayer & McCarville, 2020).

Alternatively, backchannel communication may lead to greater perceived emotional synchrony because such communication provides evidence of others’ emotions. Again, emotions are indicators of the essence of one’s experience (Bastiaansen et al., 2019). In analog settings, emotions are expressed in several ways (Hatfield et al., 2014). Such expressions signal others’ experiences and form the basis of perceived emotional synchrony. In the absence of others’ physical presence, information about others’ emotions is also absent. But, backchannel communication may simulate emotional cues (Kramer et al., 2014). Indeed, text is an emotionally rich medium that can provide a window to others’ experiences (Schweitzer & Waytz, 2020).

In turn, emotional information carried by backchannel communication may facilitate emotional contagion. As mentioned earlier, exposure to others' emotional displays can be associated with mimicry and internalization of the emotions that are displays (Hatfield et al., 2014). This process may not be limited to analog settings. When participants read other participants' messages, assuming that such messages carry a shared sentiment about the co-attended event, they may "catch" the emotions that are shared over text (Luo et al., 2020). It seems plausible that such text-based emotional contagion could result in the perception of emotional synchrony with co-attendees.

Ayer and McCarville (2020) explored backchannel communication among tennis enthusiasts who viewed a live tennis match. These enthusiasts were separated from each other, each occupying their own private space. As they watched the match, they posted about their experiences for others to see. In this way, backchannel communication provided exposure to others' experiences. For many viewers, such backchannel communication seemed to contribute to perceived emotional synchrony. For example, as viewers wrote about elation or disappointment, others responded noting that they felt the same way. This suggests that when attention is shared in virtual experiences backchannel communication is important to creating perceived emotional synchrony

Hypothesis 2: the presence of backchannel communication will be positively associated with perceived emotional synchrony.

2.7.2 Shared Identity

The second social context factor of interest here is that of shared identity. Shared identity is the perception of mutual self-other categorization (Hopkins et al., 2016). It

suggests that the individual identifies with the other and perceives that the other identifies with them, too. In each situation, all individuals have a salient identity (Markus & Kunda, 1986). When the situation is social, that is when the individual is aware of the other, they seek to categorize the members of the situation to establish characteristics of their relationship to others (Tajfel et al., 1971; Turner et al., 1987). When there is some evidence that the self and other are similar in some important way, the individual perceives that their identity is shared by the other (Turner et al., 1987). For instance, two people wearing the same band tee at that band's show are likely to perceive, in that moment, a shared identity with the other (Neville & Reicher, 2011).

Any experience situated in a social context may depend on the degree of shared identity with those involved in the experience. Consider as an example an individual at a cultural celebration who deeply identifies with the event. For that individual, the extent to which others share in that identity influences the quality of their experience. Their perceptions of shared identity influence their perceptions of opportunities to express their self to others (Hopkins et al., 2016). Such expression is an important part of many gatherings that can influence one's enjoyment of the event (Hopkins et al., 2016). Shared identity also facilitates perceptions of trust and respect that transform social interactions toward greater intimacy and, ultimately, more enjoyment (Neville & Reicher, 2011).

Shared identity is prevalent in many leisure experiences. Individuals often self-select into activities based on their salient identities (Haggard & Williams, 1992; Jun & Kyle, 2012). Thus, those who choose to gather in leisure typically share some common identity. More than that, individuals who perceive that their identity is shared by fellow participants

also often report perceived emotional synchrony with them (Zumeta et al., 2016b; Páez et al., 2015; Stieler & Germelmann, 2016). Emotional contagion may be an important process through which shared identity is related to perceived emotional synchrony. When shared identity is high, individuals are more likely to display their emotions (Hopkins et al., 2016) and may be more sensitive to the emotions of others' (Neville & Reicher, 2011). As mentioned earlier, these are important conditions for emotional contagion (Hatfield et al., 2014).

Hypothesis 3: shared identity will be positively associated with perceived emotional synchrony.

In some instances, the identity of others with whom messages are exchanged is known. For example, friends might tune in together to a synchronously streamed movie, exchanging messages with each other throughout. Alternatively, many virtual experiences rely on backchannel communication that is devoid of “the standard visual and aural cues of social identity” (Norris, 2002, p. 5). Consider that online gamers experience virtual worlds from the perspective of their “avatars”. Such virtual representations of the “self” conceal indicators of gender, race, and age that typically inform impressions of others' identities. More than that, virtual spaces provide opportunities to “pretend to be someone else or disclose parts of our identities that we do not dare to express elsewhere” (Ron & Nimrod, 2018, p. 251). Given that identities can be obfuscated online, the importance of backchannel communications might be increased. Indeed, they might provide the only cues to participants hoping to connect with others of similar dispositions.

When shared identity is high, the presence or absence of backchannel communication may be inconsequential to perceived emotional synchrony. Individuals with similar identities tend to experience events in similar ways because their identity is a lens for the experience (Hareli & Hess, 2010). Thus, their emotional displays are likely to suggest perceived emotional synchrony. When such displays (e.g., backchannel communication) are absent, perceived emotional synchrony may be based on intuitions about others' experiences. When they think about similar others' experiences, they are likely to assume that such others' experiences are similar to their own (Savitzky et al., 2011). Thus, when co-attendees are similar, regardless of the presence of backchannel communication, perceived emotional synchrony will be high.

Conversely, when shared identity is low, the role of backchannel communication may be more important to understanding perceived emotional synchrony. In the absence of backchannel communication, intuitions about dissimilar others' experiences are unlikely to result in perceived emotional synchrony. Indeed, people often assume that out-group members' experiences are dissimilar to their own, a phenomenon called "counter-projection" (Denning & Hodges, 2021; Savitzky et al., 2011).

However, the introduction of backchannel communication could reverse such an effect because it provides clear evidence of a shared experience. Typically, shared identity is based on identity cues such as others' appearance (Neville & Reicher, 2011). In virtual settings, such cues are more subtle, including usernames and icons (Tanis & Postmes, 2007). Such cues signal identity and, when they are aligned with one's own identity, they are a mental short-cut to perceptions of emotional synchrony. Yet, the emotional information

carried by text may supersede such mental short cuts because it provides plain evidence of others' experience. When co-attendees write that they loved the event, whether they originally shared in the individuals' identity may be irrelevant to perceived emotional synchrony. This is consistent with the finding that individuals' emotional displays have a greater influence on perceptions of emotional connection than other identity cues (e.g., O'Donnell et al., 2016). Thus, the following hypothesis is offered:

Hypothesis 4: shared identity moderates the relationship between backchannel communication and perceived emotional synchrony such that (a) when shared identity is low, backchannel communication will be positively associated with perceived emotional synchrony and (b) when shared identity is high, backchannel communication will be unrelated to perceived emotional synchrony.

2.8 Shared Experience Dynamics and Emotional Responses

Ultimately, participants and providers are interested in creating desirable experiences (Rossman & Ellis, 2012). As mentioned earlier, the quality of an experience may be best described in terms of emotional responses. Emotions are mental states that arise from appraisals of events and that may result in specific actions (Bagozzi et al., 1999). They constitute the basic "building block" of experience because they indicate how the individual responded to the service in terms of mental appraisals and the feelings that arise from such appraisals (Bastiaansen et al., 2019). This dissertation is concerned with the experiential aspect of emotions, the subjective feeling of an emotional state (e.g., excitement, inspiration; Bagozzi et al., 1999).

Whether participants feel happy or sad, inspired or discouraged, can mean the difference between a successful outing and a poor one. Indeed, such emotional responses are important to both participants and providers. They can influence participants' quality of life (Newman et al., 2014). They can also influence participants' plans to repatronize the provider in the future (Hart et al., 2007) and share positive messages about the experience with others (Pelletier & Collier, 2018). This suggests that examining factors that contribute to emotional responses can inform an understanding of how create desirable experiences. The present research explores the contribution of perceived emotional synchrony to such emotional responses.

Traditional leisure experiences were thought to have multiple phases (Clawson & Knetsch, 1966). The traditional experience was thought to begin, for example, with anticipation and expectation. In traditional contexts the individual travelled to the leisure setting/event and took part in the on-site experience. The experience continued as they traveled home, perhaps reflecting on their experience. They might interact with other participants at each of these phases. As a result, involvement in each phase could establish meaning, enhance positive emotions, and even contribute to perceptions of community among those who take part (Harmon & Scott, 2017).

However, of interest here, the structure of these important phases might need to be reconsidered for virtual experiences. While feelings of anticipation and reflection may be very much a part of such experiences, those who tune in to a live-streamed concert do not typically "travel to" and "travel from" a site. Instead, they participate from the comfort of their own homes. Understanding the virtual experience, then, may require an even deeper

focus on *in-situ* dynamics. The present study focuses on those in terms of shared attention and shared emotion.

The role of social interaction in understanding the quality of virtual experiences is still debated. Jamieson (2013) summarized two perspectives on the topic: the optimists and the pessimists. Optimists see that digital technologies offer opportunities for the development of close personal relationships. They contend that connecting with others in virtual spaces can be meaningful and worthwhile. Alternatively, pessimists see those same technologies as threats to personal relationships. Their view is that increasing digitization renders relationships between individuals fragile and shallow. What seems clear is that understanding the dynamics of shared experiences is central to understanding whether social interaction helps or hinders the quality of virtual experiences.

Previous research has explored relationships between shared attention and emotional responses to providers' offerings. Such research has shown that shared attention amplifies emotional responses. For instance, Boothby et al. (2014) asked participants to report their emotional responses to eating chocolate. Such responses were heightened under conditions of shared attention. When the chocolate was pleasant, sharing attention was associated with greater enjoyment of the chocolate, and when the chocolate was unpleasant, shared attention rendered the experience worse. Similar results have been demonstrated in other studies (Boothby et al., 2016, 2017; Shteynberg et al., 2014).

In a similar vein, previous service research suggests that shared attention may be related to emotional responses to service delivery. Service settings are often social contexts in that individuals participate in the service together and are aware of others' presence. For

example, restaurant and movie patrons are usually aware of others' presence, and some even seek out the social ambience that such presence creates (Jolly et al., 2019). Even when interaction with others is absent, simply sharing attention to a common event can amplify emotional responses. For example, when service fails, experiencing such failure with others creates more aggravation than when it is experienced alone (Du et al., 2014; He et al., 2012).

As explained earlier, such amplification may be clarified by mentalization. Shared attention is positively associated with mentalization (Bhargave et al., 2018). Such mentalization renders others' experiences more salient. Thus, under shared attention, when the individual evaluates their own experience, they do so both from a private lens and from the lens of the other. When others' experiences under shared attention are perceived to be like one's own, such shared attention then amplifies emotional reactions to stimuli (Boothby et al., 2014; Raghunathan & Corfman, 2006; Shteynberg et al., 2014).

Further, the relationship between shared attention and emotional responses seems to operate at multiple levels of emotional responses. As mentioned earlier, emotional responses include visceral feelings such as inspiration and wonder and they include evaluative responses tied to the broader experience (Bagozzi et al., 1999). For example, consider a theme park experience comprised of moments full of excitement (e.g., roller coaster rides) but also lulls (e.g., waiting in line). Emotional responses in the experience include feelings tied to such moments but also the impression of satisfaction or enjoyment that the experience "leaves" the individual with (Kahneman, 2011). Of course, both sorts of responses are interwoven (Ladhari, 2009). Shared attention may amplify emotional responses at both

levels, at the level of evaluations and the level of “feelings” about the experience (Boothby et al., 2014).

A separate line of research has explored the relationship between perceived emotional synchrony and emotional responses (Páez et al., 2015; Bouchat et al., 2020). In general, such research suggests that perceived emotional synchrony is associated with a more positive emotional experience. In situations that are generally enjoyable, such as when listening to a favourite band at a festival, perceived emotional synchrony seems to heighten positive aspects of the experience. For instance, perceived emotional synchrony may be positively associated with experience satisfaction (Jahn et al., 2018) and participants’ reports of positive emotions (Páez et al., 2015). Thus, like shared attention, perceived emotional synchrony may be related to emotional responses at multiple levels.

However, unlike the shared attention research reported earlier, perceived emotional synchrony research suggests an *enhancement* effect of shared experiences. It suggests that sharing in an emotional experience with others can heighten positive emotional responses to the event regardless of the emotional tone of the event. Consider that some leisure experiences are not immediately enjoyable (Lee et al., 1994). For instance, dark tourism experiences may evoke feelings of sadness and anger. And yet, sharing such experiences with others may render emotional responses more positive. When participants in a solemn remembrance event were surveyed, their reports of perceived emotional synchrony were associated with greater positive emotion and less negative emotions (Páez et al., 2015). Despite the “negative” tone of the event, sharing in the experience made it more positive.

This pattern has been observed in other less-enjoyable circumstances, too. In a study of students in classrooms, results showed that boring experiences were more enjoyable when they were shared by others (Gabriel et al., 2020). Specifically, the perception that one's boredom was shared by others was positively associated with enjoyment of the event, positive mood, feeling lost in the moment (i.e., "flow"), and feelings of wonder and amazement. More than that, even traumatic events are reported to be less devastating when they are shared by others than when they are not (Pelletier, 2018). It seems that when individuals experience pain or injustice, they seek out commonality with others, and at that moment establishing that one's experience is shared by others reduces the negativity of the experience (Konis et al., 2016).

Together, these parallel lines of research suggest that both shared attention and perceived emotional synchrony influence emotional responses in complimentary ways. Shared attention may amplify emotions. Given that most leisure settings are inherently pleasurable, such attention seems likely to heighten positive emotions. Even when the situation is negative (e.g., boring, sad), shared attention that results in perceived emotional synchrony may eventually result in positive emotions because such synchrony heightens positively regardless of situational emotional tone.

Based on the preceding review of the literature, it is expected that both shared attention and perceived emotional synchrony are associated with emotional responses. For this dissertation, the leisure setting in which relationships are explored (watching a video clip about a concert) is expected to be a positive one. Within that context, it is expected that greater shared attention and perceived emotional synchrony render the experience more

desirable. Examining influences of these dynamics on emotional responses together, within a single study, is novel and therefore adds to our understanding of the emotional quality of shared experiences. Figure 2 presented below summarizes the hypothesized relationships to be explored.

Hypothesis 5: shared attention will be positively associated with positive emotional responses.

Hypothesis 6: perceived emotional synchrony will be positively associated with positive emotional responses.

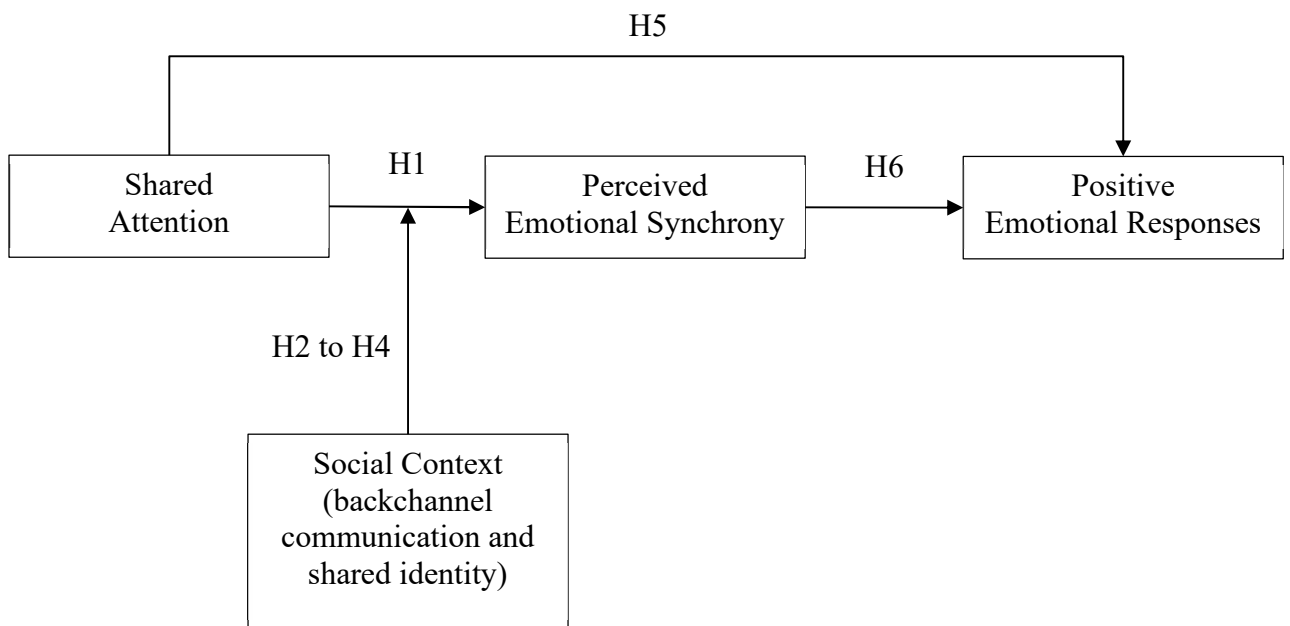


Figure 2. Theoretical model of the relationships between shared attention, perceived emotional synchrony, and emotional response. Note: H = hypothesis.

Chapter 3: Method

3.1 Design

The research design for this study has two parts. The first part was comprised of a survey that asked about participants' involvement in virtual experiences, collected demographic information, and asked how participants spent time interacting with others in virtual and analog settings. The goal of the survey was to better understand their behaviour patterns and perspectives regarding virtual social experiences. The second part of the research design was an online experiment. Participants were randomly assigned to one of five shared attention conditions while perceived emotional synchrony and emotional responses to a stimulus were measured. The experiment was introduced to better understand how shared attention might influence perceived emotional synchrony in virtual settings and how these shared experience dynamics contribute to the quality of participants' virtual experiences. The study was approved by an institutional ethics review board (project #43124).

3.2 Participants

Participants were recruited from Amazon's Mechanical Turk (MTurk) platform. MTurk is a crowdsourcing tool that is often used by researchers to recruit research participants (Paolacci & Chandler, 2014). This tool provided a convenient opportunity to create and manipulate conditions associated with a virtually shared experience (Shteynberg et al., 2014). Consistent with best practices in recruiting from MTurk, only those who had a 90% approval rating based on previous MTurk participation were eligible to participate in the study. As well, for reasons described later, only those with Canadian internet protocol (IP)

addresses were eligible to participate. The desired sample size for the study was calculated based on a power analysis conducted with G*Power 3.1.9.4 (Faul et al., 2007). Given the input that participants would be assigned to one of five conditions and the analyses were primarily based on between-groups comparisons (with $\alpha = .05$ and power = .80), a minimum of 128 participants (or 26 in each condition) was desired.

3.3 Procedure

Potential participants were invited to a “Video Streaming Experience Study.” This adequately described the context of the study without revealing its focus, that of perceived emotional synchrony. This was important to minimizing hypothesis guessing (Bhargave et al., 2018). Those who responded to the study advertisement were taken to the study which was hosted on the LabVanced website (Finger et al., 2017). After consenting to participate, participants were invited to complete a survey of their virtual experiences. This included questions about frequency of and intention to participate in such experiences, and the platforms, activities, and other people featured in them. Several other questions were posed to identify the extent to which virtual experiences were used to connect with friends before and during the COVID-19 pandemic when physical distancing protocols prohibited many social gatherings.

After participants completed the survey, they were invited to watch a short video and provide responses to questions about it. This task was meant to simulate a virtual watch party experience. Watching content online is among the more popular leisure pursuits today (Rojas de Francisco et al., 2016) and it seems that an increasing number of viewing experiences involve viewing with other people in some way. As mentioned earlier, Netflix now offers

opportunities to create virtual watch parties with friends. Of interest here, participants in such events are aware that others are present, but they cannot hear or see the “others”. As such, the dynamics surrounding these “shared experiences” is both theoretically relevant and practically interesting.

Each participant was offered a choice of video theme: music, culture, and recent history. In fact, all participants were presented the same video regardless of which theme they chose. The three themes were all equally descriptive of the actual video, which is described later. Offering a choice was meant to simulate a leisure experience. Indeed, free choice is a hallmark of leisure experiences (Mannell & Bradley, 1986). Even under the demand of the study, participants may have perceived a freely chosen video as a leisure-like experience. Also, the choice task provided an opportunity to manipulate the social context of shared attention. Detail on this manipulation is offered later.

Once the video concluded, participants were asked to respond to questions about their experience. Questions probed a variety of issues including perceived emotional synchrony and emotional responses to the video. After answering such questions, participants were debriefed about the purpose of the study. This was appropriate given the deception involved in the experiment (Bhargave et al., 2018). At the end of the debrief, participants were asked to re-consent to the study (no participants asked to be withdrawn). All those who completed the study received \$2.50 in appreciation for their time.

3.4 Video Stimulus

Participants were presented with a two-minute-long video depicting highlights of the final song played by the Tragically Hip in their farewell concert. A concert setting was

selected for the study for several reasons. First, virtually streamed concerts are increasingly popular, suggesting that results of a study situated in a concert setting are of interest to those seeking to understand virtual experiences in general. Second, concerts are opportunities for social interaction and deeply powerful emotion (Harmon & Scott, 2017). This latter point is particularly important. The experiment exposed participants to a video that had had the potential to evoke a strong emotional reaction. Prior to the farewell tour, the lead singer of the band, Gord Downie, had announced he had terminal brain cancer. Critically, the video was edited to highlight powerful and positive emotional responses from the crowd, and it ended with Gord's final goodbye: "Thank you. You were wonderful. Thank you."

Gord Downie passed away shortly after the tour had ended, a few years before this study was conducted. This suggests that exposure to the video could be particularly emotional for participants. They were witnessing a final moment in the band's iconic career, a career that spanned decades. It seems important to note that participants in this design were not necessarily fans of the band featured in the video stimulus. Participants may have varied in their familiarity with and passion for the Tragically Hip at the time of the study. In this way, the study is not a traditional study of fans or enthusiasts. Alternatively, leisure researchers interested in such fans have used interview methods to better understand the fan experience, sometimes with individuals who have followed a given music group for decades (see for example Harmon & Dunlap, 2018; Harmon & Scott, 2017). The goal here was not to study fans, per se, but rather to understand how people co-attending to a single stimulus (in this case, a "concert") might feel emotionally connected to each other.

3.5 Conditions and Manipulations

Participants were randomly assigned to one of five conditions. Characteristics of the conditions are summarized in Table 1. In the control condition, participants' experiences were entirely individual. No other participants were mentioned, and they watched the video alone. Because no others were a part of the experience, this condition represents an experience in which shared attention was absent (Shteynberg et al., 2016).

Table 1. Summary of characteristics of study conditions

Conditions	Shared Attention Manipulation	Cues about Others
Control	No	N/A
A: SI low and BC absent	Yes	Participant List (American)
B: SI high and BC absent	Yes	Participant List (Canadian)
C: SI low and BC present	Yes	Participant Chat (American)
D: SI high and BC present	Yes	Participant Chat (Canadian)

Notes: abbreviations are SI = shared identity and BC = backchannel communication

The remaining participants were assigned to one of four conditions in which the presence of shared attention was “created”. The shared attention manipulation was comprised of two parts. First, these participants were informed just prior to the video that they were part of an MTurk “microbatch,” a group of people who were simultaneously participating in the study. Microbatches are common and so it was entirely plausible that participation was situated in this group context (Shteynberg & Apfelbaum, 2013). This was intended to activate awareness of others, a necessary feature of shared attention (Shteynberg, 2015). Participants (apart from those in the control condition) were always made aware of the virtual

presence of four others. In fact, all participation was private, and participants were debriefed about this at the end of the study.

Second, participants assigned to the shared attention conditions were reminded that their participation was synchronized with others' participation. Specifically, throughout the experiment, they experienced intermittent delays accompanied by the message "waiting for others..." Synchronicity is critical to shared attention, and without it shared attention is not possible (Shteynberg, 2015). Further, as the video played, the presence of ostensible others was represented using visual cues. Depending on the specific condition to which they were assigned, others' presence was simulated using national flags and participant names (e.g., "Participant 1") and/or text-based messages. Such subtle cues reminded participants that their attention to the video was shared by others (Shteynberg, 2010).

3.5.1 Manipulation of Backchannel Communication

Backchannel communication was either absent or present. When it was absent, no opportunity to exchange text messages was offered. Instead, participants saw a box to the right of the video player labelled "Participant List" (see Figure 3). When backchannel communication was present, the Participant List box was replaced with a "Participant Chat" box (see Figure 4). The chat box was pre-programmed to simulate a live chat that was relevant to the content of the video. The content of the chat was borrowed from YouTube comment sections associated with similar videos of the concert (e.g., "the Hip!" "I was so teary-eyed during the whole show!"). All comments were consistent with the emotional tone of the video, a mix of happiness and nostalgia. Spelling errors were intentionally included to increase the authenticity of the chat. One message was sent from each of the four ostensible

chat members. The messages appeared in the same order across conditions. The first message appeared about 10 seconds after the video began and the other messages appeared around every 20 seconds after that. Also, to increase the believability of the chat, participants were able to send their own messages, but such messages were not recorded.

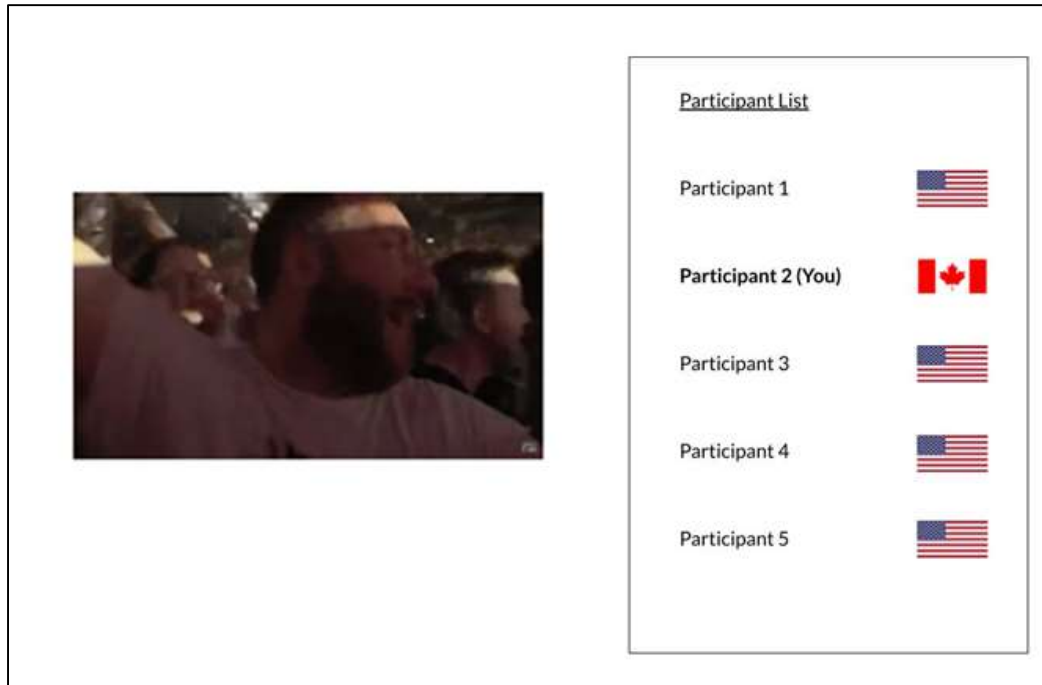


Figure 3. Screenshot of the “Participant List” provided to participants in condition A (backchannel communication absent and shared identity low).

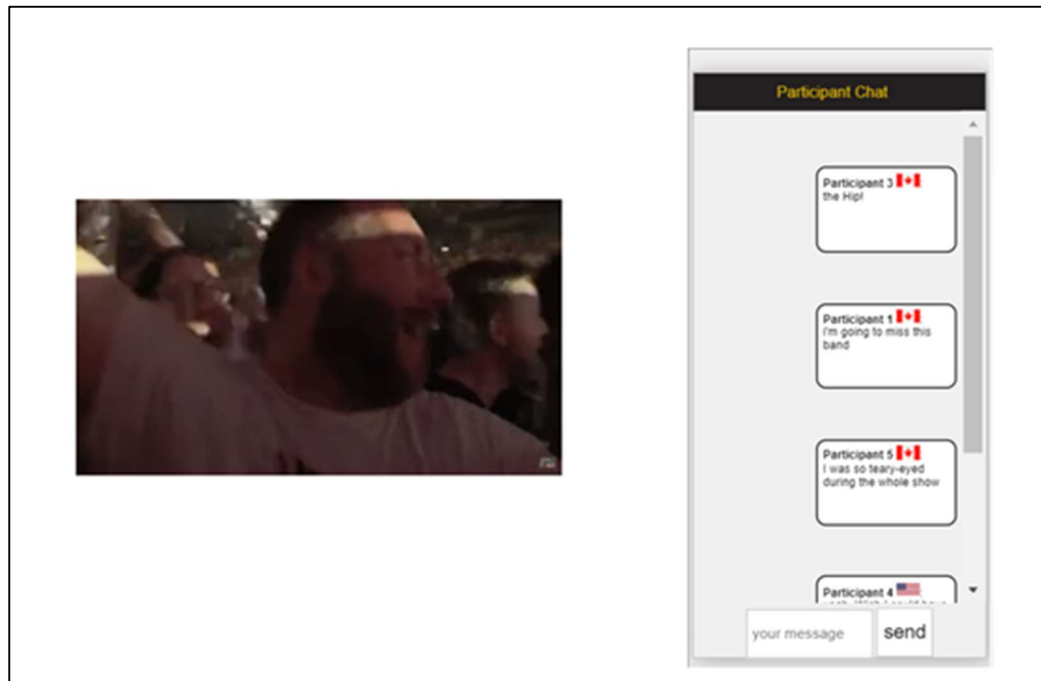


Figure 4. Screenshot of the “Participant List” provided to participants in condition D (backchannel communication present and shared identity high).

3.5.2 Manipulation of Shared Identity

Shared identity was either low or high. Critically, because shared identity is based on situational identity, participants’ sense of self as Canadian was first activated. Recall that all participants were in Canada, and they were asked to confirm that location before the experiment. Simply selecting their location could have been enough to activate a situational sense of self as Canadian (Reed, 2004). As well, the description of the video provided to participants just before the video began mentioned several Canadian elements. It mentioned Canadian locations and suggested the importance of the Tragically Hip to Canadians. Such information again reminded participants of themselves as Canadians and the importance of that identity as they watched the video (Reed et al., 2012).

Subsequently, whether participants' sense of self as Canadian was shared by others was manipulated using national flags associated with other participants' names. The ostensible "other" participants were associated with either a Canadian flag or American flag. Such flags are icons of national identity (Liston & Kitching, 2019). When shared identity was low, the four other group members had the American flag linked with their names (see Figure 3). When shared identity was high, three of the others were linked to a Canadian flag and one was linked to the American flag. This meant that the low shared identity condition was always 80% "American" and the high shared identity condition was always 80% "Canadian."

3.6 Measures

A full list of the items is included in the Appendix. This section describes each measure in general terms.

3.6.1 Demographic Characteristics

Participants were asked to report their age in years and their gender (0 = male, 1 = female, 2 = other, 3 = prefer not to say). Such demographic characteristics may be relevant to emotional dynamics within shared experiences (Shteynberg et al., 2014).

3.6.2 Participation in Virtual Experiences

Participants were asked to report the time that they spent with friends in virtual and analog settings both prior to COVID-19 and during it (in the last six months at the time of the study). A full list of the questions asked is in the Appendix. Such questions were included to understand changes in face-to-face time with friends throughout COVID-19 and how that pandemic may have influenced participation in virtual experiences. Further, participants were

asked to report their previous participation in virtual watch party experiences, specifically. Several questions related to such participation were posed, including the frequency of participation in virtual watch parties, the platforms used to host them, the people and activities involved, and intentions to participate in virtual watch parties in the coming months.

3.6.3 Identity

Participants were asked to report on two facets of their identity. First, they were asked to report on the extent to which they identified as Canadian by responding to a single item: “To what extent do you agree with the following statement about yourself: ‘I identify as Canadian’.” Responses were provided on a seven-point scale where 1 = “fully disagree” and 7 = “fully agree”. This item (with a different facet of identity) and response scale format have been used successfully in previous research (Postmes et al., 2013). Second, participants were asked to report on the extent to which they identified as music enthusiasts by responding to a single item: “To what extent do you agree with the following statement about yourself: ‘I identify as a music enthusiast’.” Responses were provided on a seven-point scale where 1 = “fully disagree” and 7 = “fully agree”. Such aspects of identity were measured because they may be relevant to understanding interest and participation in activities (Reed et al., 2012).

3.6.4 Tendency for Perceived Emotional Synchrony

Participants were asked to report their tendency for perceived emotional synchrony by responding to two items (“I feel very connected to others when in a large group activity I like, like going to a concert, church, or convention,” and “I like attending festivals because I

like to be around all of the people”) adapted from Gabriel et al.’s (2017) tendency for Effervescent Assembly Measure (TEAM). Responses were provided on seven-point scales where 1 = “fully disagree” and 7 = “fully agree.” These items were selected from the original 11-item instrument based on high factor loadings because the original scale would have been too lengthy for the present study. The measure was intended as an indicator of the degree to which individuals were interested in and likely to share experiences with others.

3.6.5 Shared Attention

In addition to the shared attention manipulation, shared attention was also measured. Participants were asked to report their shared attention by responding to a single item: “To what extent did you feel that others focused their attention on the same video that you watched at the same time that you did?” Responses were provided on a seven-point scale where 1 = “not at all” and 7 = “a lot.” A similar item was used in previous research (Wlodarczyk et al., 2020).

3.6.6 Mentalization

Participants were asked to report the extent to which they mentalized while watching the video by responding to a single item: “While watching this video, how often did you think about other people watching the video?” Responses were provided on a seven-point scale where 1 = “I never had this thought” and 7 = “I often had this thought.” A similar item was used in previous research (Bhargave et al., 2018).

3.6.7 Perceived Emotional Synchrony

Participants were asked to report their perceptions of emotional synchrony by responding to four items (“While watching this video, I experienced the same feelings that others experienced,” “While watching this video, my experience was common with others’ experience,” “While watching this video, I felt on the same ‘wavelength’ as others,” and “While watching this video, I felt a strong shared emotion”). Responses to each item were provided on seven-point scales where 1 = “not at all” and 7 = “very much.” The items were borrowed from previous measures related to a sense of shared experience (Boothby et al., 2014; Bhargave et al., 2018; Páez et al., 2015; Włodarczyk et al., 2020). This approach was preferable to existing measures of perceived emotional synchrony because such measures (see for example Páez et al., 2015) capture aspects of shared experiences such as shared identity and sense of community that were not relevant to the conceptualization of perceived emotional synchrony used in this dissertation.

3.6.8 Positive Emotional Responses

Three positive emotional responses were measured. Each is consistent with Bagozzi et al.’s (1999) model of emotions, which suggests that emotions include the subjective experience of emotion, associated cognitions, and action tendencies.

First, participants were asked to report their experience of emotion in terms of their positive emotional state while watching the video. This was meant to represent the experience of positive emotions tied to the virtual watch party experience. Specifically, participants were asked to respond to four semantic differential scales: ashamed—proud,

uninspired—inspired, disappointed—encouraged, and sad—happy. The poles were presented to participants at random (e.g., sometimes sad—happy and other times happy—sad). The responses were coded such that higher scores reflect more positive emotional states in response to the video. A similar instrument was used in previous study of shared experiences (Shteynberg et al., 2014). These emotional dimensions were selected because their tone was consistent with that of the video.

Second, participants were asked to report their overall enjoyment of the video, which represented a summary evaluation of the quality of their experience. Specifically, they were asked to respond to a single item: “What was your overall enjoyment of watching this video?” Responses were provided on a seven-point scale where 1 = “not at all enjoyable” and 7 = “very enjoyable.” A similar item was used in a previous study of shared experiences (Raghunathan & Corfman, 2006). As mentioned earlier, enjoyment represents a summary evaluation of the positive emotional responses to an experience (Ladhari, 2009).

Third, participants were asked to report action tendency in terms of their willingness to share the video. They were asked to respond to a single item: “To what extent would you be willing to share this video with your friends?” Responses were provided on a seven-point scale where 1 = “not at all” and 7 = “very much.” A similar item was used in a previous study of shared experiences (Shteynberg et al., 2014). Willingness to share the video represents an action tendency which is a component of an emotional response (Bagozzi et al., 1999) and has been used as a measure of emotional response in previous research (Shteynberg et al., 2014). Further, it was included because sharing online content with others is practically important to many leisure providers (Gupta & Harris, 2010).

Chapter 4: Results

4.1 Chapter Overview

This chapter is organized into two parts. The first presents the results of the survey of participants' virtual experiences. The second portion presents results of the experiment described in Chapter 3. All data analyses reported here were conducted using the IBM SPSS Statistics program (version 27).

4.2 Results of the Survey

4.2.1 *Sample Characteristics*

One hundred eighty-three participants completed the survey (note that the number of responses differs between questions because responses to each question were optional). Participants' average age was 32.31 years ($SD = 9.81$). Sixty-two (33.9%) participants were female, 118 (64.5%) were male, and three (1.6%) selected "other" as their gender. On average, participants identified as Canadian ($M = 6.02$, $SD = 1.79$) and as music enthusiasts ($M = 5.19$, $SD = 1.62$). This was expected given the selection criteria for the study and the advertisement and pre-consent introduction letter to participants. Participants' tendency for perceived emotional synchrony was on average near the middle of the instrument's range ($M = 4.36$, $SD = 1.78$). This is consistent with previous research measuring such tendencies in various populations (Gabriel et al., 2017).

4.2.2 *Virtual Watch Party Experiences*

One hundred seventy-nine participants reported their previous participation in virtual watch parties (see Figure 5). Of those, 57 (31.8%) never, 56 (31.3%) rarely, 33 (18.4%)

sometimes, 25 (14.0%) often, and eight (4.5%) very often participated in a virtual watch party. Participants also indicated that, on average, their intention to participate in virtual watch parties in the next six months was near the middle of the response scale ($M = 4.31$, $SD = 1.99$). Half (50.6%) of the participants selected one of the top three of seven response options, which suggests that roughly half of the sample intended to participate in a virtual watch party in the coming months. Previous participation in virtual watch parties was positively associated with intention to participate in a virtual watch party in the coming months ($n = 133$, $r = .65$, $p < .001$). The more frequently individuals had participated in virtual watch parties, the stronger their intentions to do so again in the future.

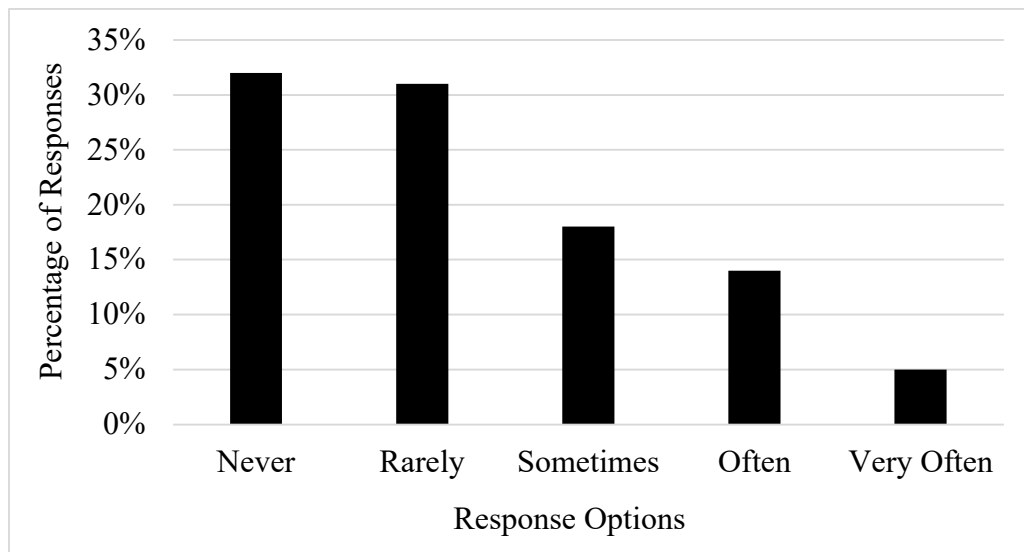


Figure 5. Previous participation in a virtual watch party

Correlational analyses were used to explore relationships between demographic characteristics and participation in virtual watch parties (see Table 2). Results suggested that age was negatively associated with frequency of participation in virtual watch parties.

Gender was dummy coded into three variables (male, 0 = no, 1 = yes; female, 0 = no, 1 =

yes, and other/prefer not to say, 0 = no, 1 = yes) for this and subsequent analyses. None of the gender variables were associated with frequency of participation in virtual watch parties. Similarly, Canadian identity was not associated with frequency of participation in virtual watch parties. Music enthusiast identity was positively associated with frequency of participation in virtual watch parties. Tendency for perceived emotional synchrony was also positively associated with frequency of participation in virtual watch parties. Age, gender, and Canadian identity were not associated with intention to participate in a virtual watch party in the coming months. Music enthusiast identity and tendency for perceived emotional synchrony were positively associated with intention to participate in a virtual watch party in the coming months.

Table 2. Selected results of correlations between demographic variables and virtual watch party variables

Demographic variables	Virtual Watch Party Variables	
	Frequency of Participation	Intention to Participate
Age	-.28***	--
Gender	--	--
Canadian ID	--	--
Music Enthusiast ID	.17*	.23**
Tendency for PES	.31***	.38***

Notes: * $p < .05$, ** $p < .01$, *** $p < .001$. Abbreviations are ID = identity, PES = perceived emotional synchrony

Participants were also asked to report the activities featured in their virtual watch parties and the platform on which such parties were hosted. In order of most popular to least popular, the activity responses were as follows: watching movies ($n = 83, 45.4\%$), playing

video games ($n = 52, 28.7\%$), watching television shows ($n = 49, 26.9\%$), watching a concert ($n = 37, 20.4\%$), watching sports ($n = 31, 16.9\%$), watching special events ($n = 24, 13.1\%$), other ($n = 17, 9.2\%$), and participating in virtual fitness classes ($n = 15, 8.2\%$). Participants' chosen online platforms, in order of most popular to least popular were as follows: Netflix, YouTube, Facebook, and other (all $n = 42, 23.1\%$), Zoom ($n = 39, 21.3\%$), Twitch.TV ($n = 36, 19.8\%$), Amazon Prime ($n = 12, 6.6\%$), Hulu ($n = 1, 0.5\%$), and Group Watch ($n = 0, 0.0\%$).

Participants were also asked about the social context of their previous watch party experiences. One hundred twenty-nine participants responded to the question. Of those, 25 (19.4%) indicated that strangers were never involved in their virtual watch party experiences. In other words, they were always familiar with their fellow viewers. An additional 29 (22.5%) participants indicated that strangers were rarely involved in such experiences. Alternatively, 47 (36.5%) participants indicated that strangers were often involved in their previous watch party experiences. This suggests that virtual watch parties could involve others who were both familiar and unfamiliar.

Further, participants were asked to report on their face-to-face time with friends in terms of the number of hours spent and percentage of those hours spent online before COVID-19, in the past six months during it, and in terms of their intentions for the next six months. These questions explored the extent to which COVID-19 was associated with a transition to virtual experiences. Results are illustrated in Figure 6 and Figure 7. On average, participants ($n = 183$) reported spending 4.89 hours ($SD = 4.45$) of face-to-face time with friends on a typical day before COVID-19 and 2.96 hours ($SD = 3.83$) of face-to-face time

with others during the previous six months (a period characterized by various COVID-19 pandemic-related restrictions). Results of a paired samples t-test suggested that the last 6 months witnessed a reduction in numbers of face-to-face hours with friends, $t(182) = -6.83$, $p < .001$, $d = -.51$, 95% CI [-.35, -.66].

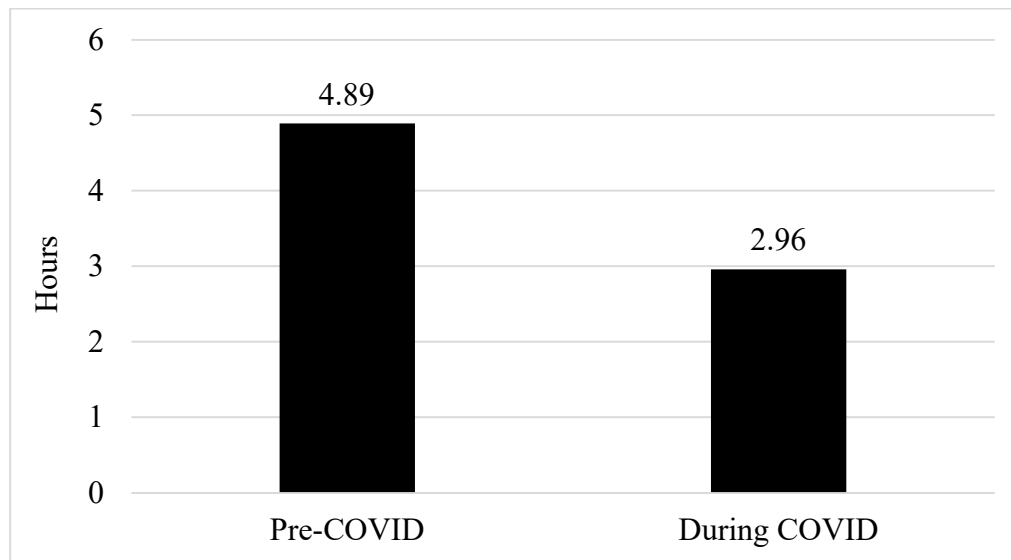


Figure 6. Hours spent connecting with friends pre- and during COVID-19

Of the hours that participants spend connecting with friends, 33.2% ($SD = 30.0\%$) were online pre-COVID and 71.5% ($SD = 35.44$) were online during COVID. Results of a paired samples t-test suggested that the last 6 months witnessed an increase in the percentage of such hours spent online, $t(182) = 14.79$, $p < .001$, $d = 1.09$, 95% CI [.91, 1.28]. This suggests some transition to virtual experiences during COVID-19.

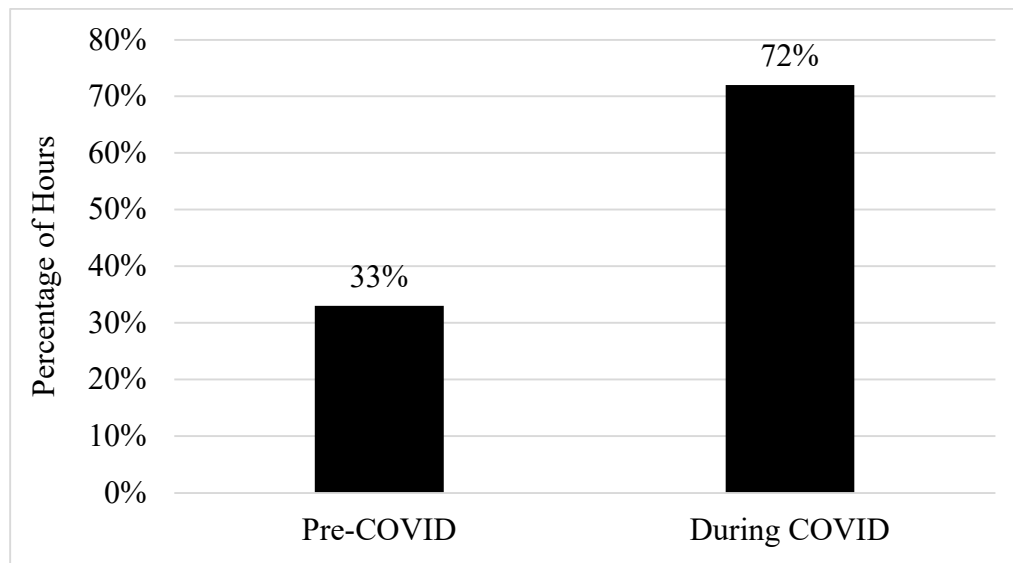


Figure 7. Percentage of hours connecting with friends spent online

Most participants reported that their intention for face-to-face time with friends in the next six months would increase to some extent ($M = 3.08$, $SD = 1.00$). Indeed, 78.7% of participants reported that their intention was to increase face-to-face time spent with friends. Intention to spend time online with friends in the coming months ($M = 1.44$, $SD = 1.03$) suggested many participants planned to spend less time connecting with friends face-to-face online. Just over half (50.8%) of participants indicated plans to decrease time spent with friends face-to-face online. This finding suggests an even split going forward. Many plan to continue the new trend (meeting online) while just as many plan to return (to some extent) to face-to-face gatherings.

Correlational analyses were used to explore relationships between demographic variables and measures of face-to-face time with friends (see Table 3). Age, Canadian identity, and tendency for perceived emotional synchrony were negatively associated with face-to-face time spent with friends pre-COVID-19. Gender and music enthusiast identity

were unrelated to face-to-face time spent with friends pre-COVID-19. None of the demographic measures were associated with percentage of pre-COVID-19 face-to-face time spent with friends online.

Table 3. Selected results of correlations between demographic variables and face-to-face time with friends

Demographic variables	Pre-COVID		During COVID	
	Face-to-face time	% Online	Face-to-face time	% Online
Age	-.20**	--	-.16*	-.21**
Gender	--	--	--	--
Canadian ID	-.32***	--	--	--
Music Enthusiast ID	--	--	.18*	--
Tendency for PES	.36***	--	.33***	.16*

Notes: * $p < .05$, ** $p < .01$, *** $p < .001$. Abbreviations are ID = identity, PES = perceived emotional synchrony

Gender and Canadian identity were unrelated to face-to-face time spent with friends in the past six months. Age was negatively associated with face-to-face time spent with friends in the past six month. Music enthusiast identity and tendency for perceived emotional synchrony were positively associated with face-to-face time spent with friends in the past six months. Age was negatively associated with percentage of face-to-face time spent with friends online in the past six months). Gender, Canadian identity, and music enthusiast identity were unrelated to percentage of face-to-face time spent with friends online in the past six months. Tendency for perceived emotional synchrony was positively associated with percentage of face-to-face time spent with friends online in the past six months.

None of the demographic measures were related to intention for time spent with friends in the next six months ($p > .15$). Canadian identity was negatively associated with intention for time spent with friends online in the next six months ($n = 183, r = -.17, p = .02$). All other demographic measures were unrelated to intention for time spent with friends online in the next six months ($p > .46$).

The relationship between virtual watch party participation and face-to-face time with others was explored using correlational analyses. It seemed plausible that virtual watch parties provided opportunities to connect with others face-to-face, especially during the COVID-19 pandemic. Indeed, the results suggested that more frequent participation in virtual watch parties is positively associated with face-to-face time spent with friends pre-COVID-19 ($n = 179, r = .24, p < .001$) and, more importantly, in the last six months during COVID-19 ($n = 179, r = .28, p < .001$). Similarly, more frequent participation in virtual watch parties was positively associated with the percentage of face-to-face time spent with friends online pre-COVID-19 ($n = 179, r = .22, p < .001$) and in the last six months during COVID-19 ($n = 179, r = .27, p < .001$).

4.3 Results of the Experiment

4.3.1 Participant Screening

Some of the participants who completed the survey were not included in the experimental analyses. Specifically, seven participants were removed because they did not complete the measure of perceived emotional synchrony. Such participants were removed because perceived emotional synchrony was the central measure of the study. Additionally,

two participants were removed because they reported problems with the audio and/or video associated with the experimental stimulus. Consequently, 176 participants were retained for the experiment. (Again, this number may vary between analyses because responses were voluntary.) The number of participants in each condition is as follows: control ($n = 35$), A ($n = 37$), B ($n = 34$), C ($n = 37$), and D ($n = 33$).

4.3.2 Preliminary Analyses

The data were explored in terms of demographic characteristic differences between conditions. Results of one-way ANOVAs suggested that there were no differences between conditions in terms of any of the gender variables (male: $F(4,164) = .22, p = .93$; female: $F(4,164) = .07, p = .99$; other: $F(4,164) = 1.41, p = .23$), Canadian identity, $F(4, 171) = .28, p = .89$, music enthusiast identity, $F(4, 170) = 1.31, p = .27$, and tendency for perceived emotional synchrony, $F(4, 171) = 1.70, p = .15$. There was a significant difference between conditions in terms of age, $F(4, 170) = 2.61, p = .04$. Post hoc tests with Bonferroni correction showed that participants in condition B (backchannel communication absent, shared identity high) were on average younger ($M = 27.85, SD = 6.57$) than those in condition C (backchannel communication present, shared identity low) ($M = 34.97, SD = 9.78$).

The data were also explored in terms of the video themes that participants selected. Recall that participants were presented with a choice of three options: music, culture, and recent history. Selections are summarized in Table 4. Results of a chi-square test suggests that selections did not differ by condition, $\chi^2(8) = 4.00, p = .86$. Most participants selected

music ($n = 87, 52.15\%$). The remaining participants selected culture ($n = 45, 26.95\%$) or recent history ($n = 44, 26.35\%$).

Table 4. Video theme selections by condition

Condition	Music	Culture	Recent History
Control	19	10	6
A: Shard identity low and backchannel comm. absent	19	9	9
B: Shard identity high and backchannel comm. absent	18	6	10
C: Shard identity low and backchannel comm. present	18	9	10
D: Shard identity high and backchannel comm. present	13	11	9

A principal axis factor analysis of the perceived emotional synchrony instrument was used to examine its dimensionality. A one factor solution was expected. As expected, the results support a one-factor solution. The Kaiser-Meyer-Olkin measure of sampling adequacy (.80) and Bartlett's test of sphericity, $\chi^2(6) = 702.83, p < .001$, met thresholds for such analyses (Dziuban & Shirkey, 1979). Further, all the items loaded on the single factor at least .87 and the total variance explained by the single factor was 81.34% Both statistics are above the thresholds for an acceptable solution (Costello & Osborne, 2005). Additionally, the reliability of the four-item instrument was $\alpha = .94$. Consequently, a perceived emotional synchrony measure was obtained by finding the mean of the four items.

Similarly, the positive emotional state items were entered into a principal axis factor analysis. A one-factor was expected. As expected, the Kaiser-Meyer-Olkin measure of sampling adequacy (.77) and Bartlett's test of sphericity, $\chi^2(6) = 388.21, p < .001$, support a one-factor solution. All the items loaded above .43 and the total percentage of variance explained was 62.35%, both acceptable (Costello & Osborne, 2005). As well, the reliability

of the four-item instrument was $\alpha = .84$. Consequently, a positive emotional response measure was obtained by finding the mean of the four items.

4.3.3 Hypothesis Tests

Hypothesis 1. Hypothesis 1 predicted that shared attention will be positively associated with perceived emotional synchrony. This was tested using planned contrast analysis (Furr & Rosenthal, 2003; Wiens & Nilsson, 2017). A planned contrast analysis is a comparison of two means based on an a priori prediction (i.e., hypothesis). Such an analysis was appropriate because it provided a targeted comparison of means, in this case of perceived emotional synchrony, between experimental conditions as informed by theory. For the analysis, the control group (coded -1) was contrasted against the pooled mean of the four other conditions (each coded +.25). Thus, the analysis examined whether perceived emotional synchrony was lower in the control condition than for those who received the shared attention manipulation. The result (see Figure 8) of the test was not significant (control: $M = 4.18$, $SD = 1.70$, shared attention: $M = 4.19$, $SD = 1.61$), $t(171) = -.76$, $p = .22$ (one tailed).

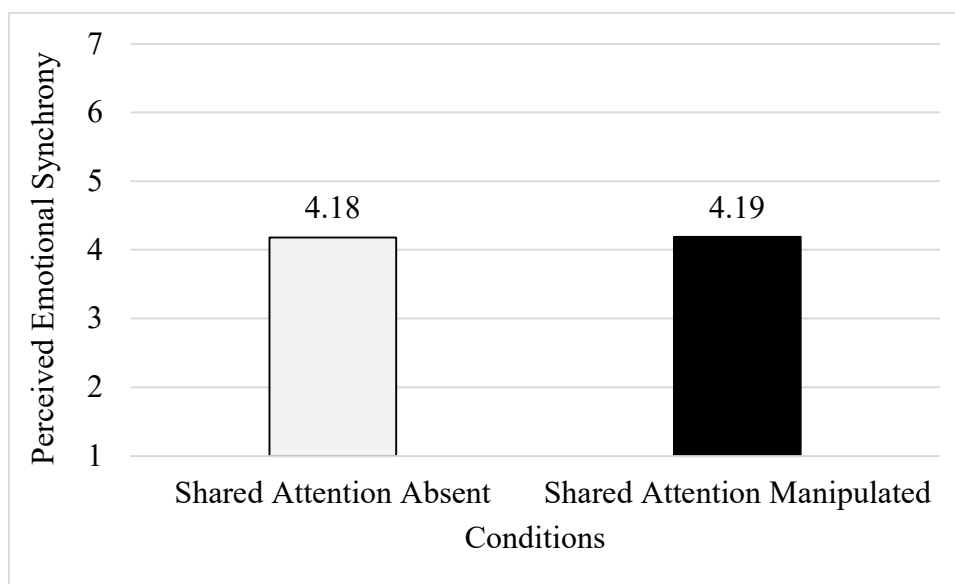


Figure 8. Result of paired contrast analysis for Hypothesis 1

This hypothesis was also tested with shared attention operationalized as participants' self-reports. Recall that participants in all conditions were asked to report the degree to which they perceived that others were co-attending to the video as the video played. Results of a correlational analysis suggested that such shared attention was positively associated with perceived emotional synchrony ($n = 175, r = .44, p < .001$). The more *attention* was perceived to be shared by others, the more *emotions* were perceived to be synchronized with others, too.

This may suggest that the manipulation of shared attention was not powerful enough to notice an effect on perceived emotional synchrony. Indeed, a planned contrast analysis between the control group (coded -1) and other groups (each coded +.25) found that self-reported shared attention was only marginally greater in the pooled shared conditions ($M = 5.04, SD = 1.63$) than in the control condition ($M = 4.54, SD = 2.20$), $t(170) = 1.60, p = .055$

(one tailed), $d = .30$, 95% CI [$-.07$, $.67$]. This result may be due to confounded effects of the social context manipulations on perceived emotional synchrony. This is explored below.

Taken together, these results provide support for Hypothesis 1.

Although the role of mentalization was not included in any hypotheses, it was used to perhaps gain a better understanding of these results. It is possible that mentalization might mediate the association between shared attention and perceived emotional synchrony. Recall that mentalization involves thinking about co-attendees' experiences. The role of mentalization was explored using both operationalizations of shared attention (manipulated and self-reported) in a single model. The data were analyzed using Hayes' (2017) PROCESS macro for SPSS (model 4 with 5,000 bootstrapped samples). Self-reported shared attention was specified as X, mentalization as M, perceived emotional synchrony as Y, and the shared attention manipulation was entered as a covariate. Figure 9 illustrates the results.

The model for mentalization was significant, $F(2,172) = 17.75$, $p < .001$, $R^2 = .17$. The shared attention manipulation was not associated with mentalization, $b = .42$, $se = .33$, $p = .20$. Self-reported shared attention was positively associated with mentalization, $b = .42$, $se = .07$, $p < .001$. The model for perceived emotional synchrony was significant, $F(3, 171) = 16.89$, $p < .001$, $R^2 = .23$. The shared attention manipulation was not associated with perceived emotional synchrony, $b = -.52$, $se = .29$, $p = .07$. Self-reported shared attention was positively associated with perceived emotional synchrony, $b = .16$, $se = .07$, $p = .02$. Further, the indirect association of self-reported shared attention on perceived emotional synchrony through mentalization was significant, $b = .07$, $se = .03$, 95% CI [$.01$, $.14$]. This suggests that

mentalization is a plausible mediator of the association between (self-reported) shared attention and perceived emotional synchrony.

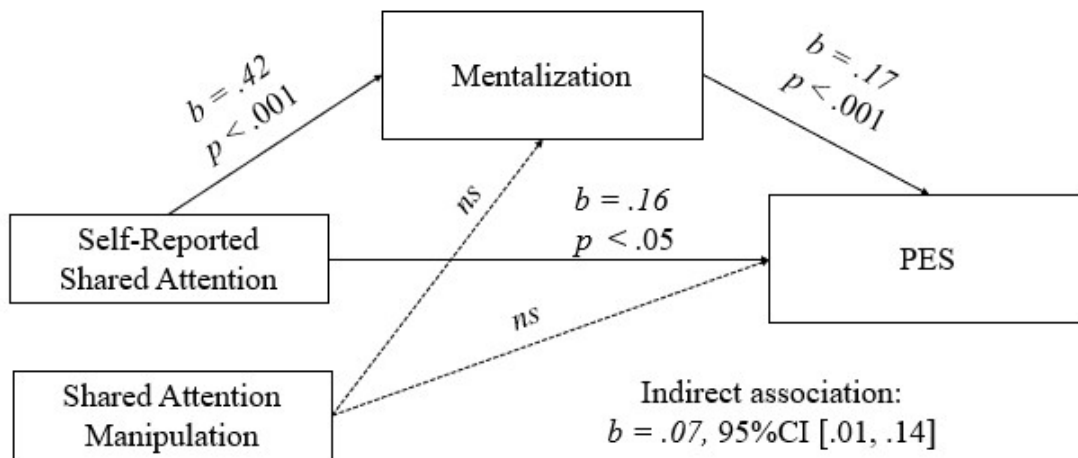


Figure 9. Summary of direct and indirect associations relevant to Hypothesis 1.

Hypothesis 2. Hypothesis 2 predicted that the presence of backchannel communication will be positively associated with perceived emotional synchrony. This was tested using planned contrast analysis. Participants in the control condition were omitted to focus the analysis on those participants whose experiences were “shared” by (i.e., mentioned) others. The conditions in which backchannel communication was absent (conditions A and B) were coded -.5 and the conditions in which backchannel communication was present (conditions C and D) were coded +.5. The results (see Figure 10) suggest that perceived emotional synchrony was greater when backchannel communication was present ($M = 4.54$, $SD = 1.88$) than when it was absent ($M = 3.74$, $SD = 1.41$), $t(171) = 2.82$, $p = .003$ (one-tailed), $d = .48$ [.14, .81]. These results provide support for Hypothesis 2.

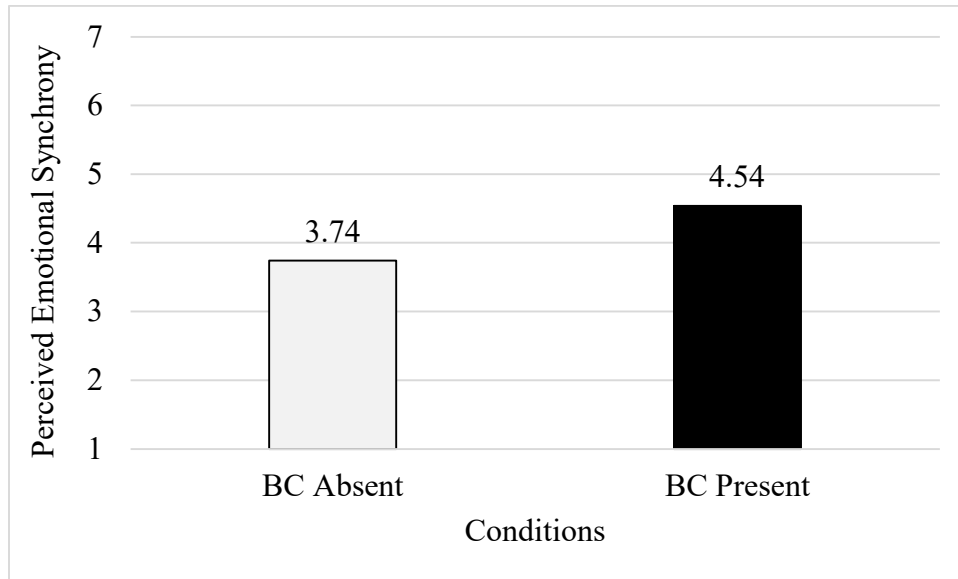


Figure 10. Result of paired contrast analysis for Hypothesis 2

Hypothesis 3. Hypothesis 3 predicted that shared identity will be positively associated with perceived emotional synchrony. This was tested with a planned contrast analysis. Participants in the control condition were omitted to focus the analysis on those participants whose experiences were “shared” by (i.e., mentioned) others. The conditions in which shared identity was low (conditions A and C) were coded -.5 and the conditions in which shared identity was high (conditions B and D) were coded +.5. The results (see Figure 11) suggest that there was no significant difference in perceived emotional synchrony between when shared identity was low ($M = 4.16, SD = 1.73$) and when it was high ($M = 4.11, SD = 1.68$), $t(171) = -.18, p = .43$ (one-tailed), $d = -.03 [-.36, .35]$. These results suggest Hypothesis 3 is rejected.

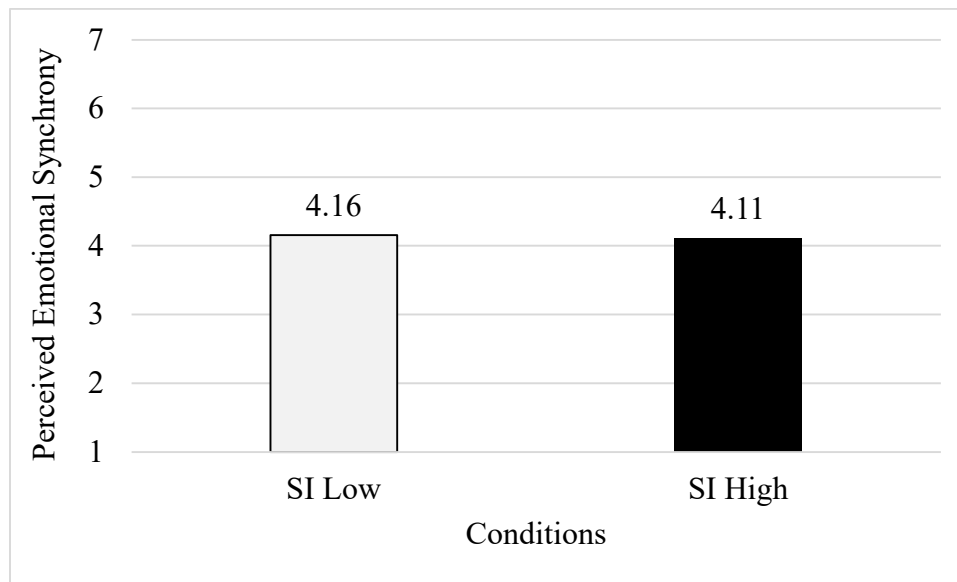


Figure 11. Result of paired contrast analysis for Hypothesis 3

Hypothesis 4. Hypothesis 4 was stated in two parts. The first predicted that when shared identity is low, backchannel communication will be positively associated with perceived emotional synchrony. The second predicted that when shared identity is high, backchannel communication will be unrelated to perceived emotional synchrony. Both parts were tested with planned contrast analyses. First, within the shared identity low conditions (A and C), the condition in which backchannel communication was absent (A, coded -1) was contrasted against the condition in which backchannel communication was present (C, coded +1). The results (see Figure 12) suggest that, among those whose identity was not shared by others, perceived emotional synchrony was greater when backchannel communication was present ($M = 4.70, SD = 1.88$) than when it was absent ($M = 3.62, SD = 1.41$), $t(171) = 2.79$, $p = .003$ (one-tailed), $d = .65$, 95% CI [.18, 1.11].

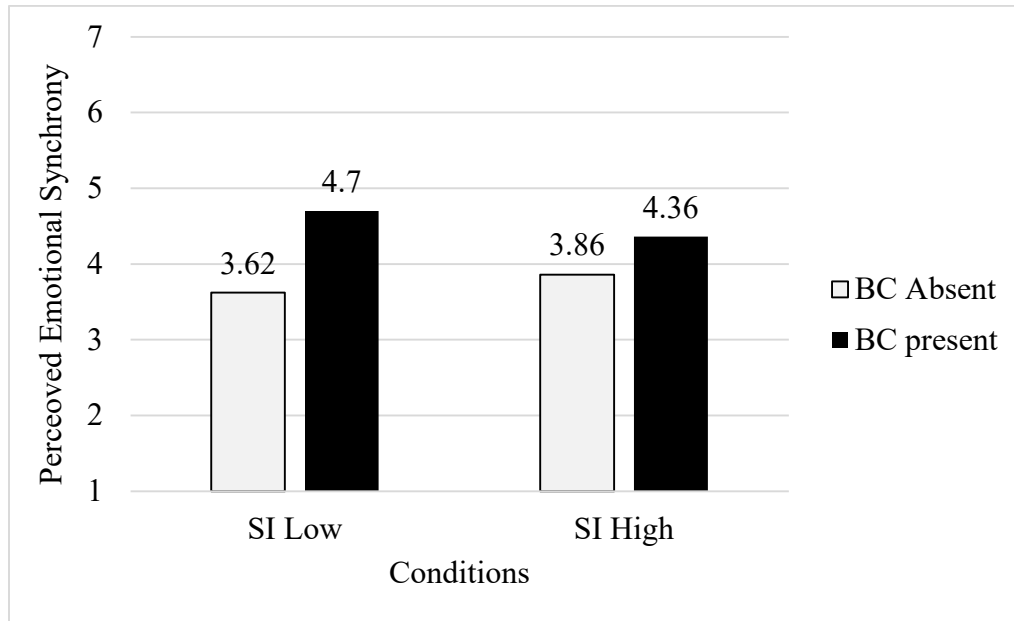


Figure 12. Result of paired contrast analysis for Hypothesis 4

Second, within the shared identity high conditions (B and D), the condition in which backchannel communication was absent (B, coded -1) was contrasted against the condition in which backchannel communication was present (D, coded +1). The result suggested that, among those whose identity was shared by others, there was no significant difference in perceived emotional synchrony between when backchannel communication was absent ($M = 3.86$, $SD = 1.43$) and when it was present ($M = 4.36$, $SD = 1.89$), $t(171) = 1.23$, $p = .11$ (one tailed), $d = .30$, 95% CI [-.19, .78]. Together, these results provide support for Hypothesis 4. They suggest that shared identity moderates the relationship between backchannel communication and perceived emotional synchrony such that the relationship is more important when shared identity is low than when it is high.

The role of backchannel communication was explored further, as a potential moderator of the relationship between shared identity and perceived emotional synchrony.

Although earlier results suggests that no such relationship existed, it was possible that such a relationship was present at one level of backchannel communication and not present at another level. Exploring this possibility was important to establishing a deeper understanding of the role of backchannel communication in virtually shared experiences.

The role of backchannel communication as a moderator was explored using two t-tests between shared identity low and shared identity high conditions at the absent and present levels of backchannel communication. When backchannel communication was absent, the results suggested that perceived emotional synchrony was not statistically different between the shared identity low ($M = 3.62, SD = 1.41$) and shared identity high ($M = 3.86, SD = 1.43$) conditions, $t(69) = .71, p = .48$ (two-tailed). Similarly, when backchannel communication was present, perceived emotional synchrony was not statistically different between the shared identity low ($M = 4.70, SD = 1.88$) and shared identity high ($M = 4.36, SD = 1.89$) conditions, $t(68) = .75, p = .46$ (two-tailed). This suggests that backchannel communication is not a moderator of a relationship between shared identity and perceived emotional synchrony.

Taken together, these results suggest the importance of backchannel communication to perceptions of emotional synchrony. Perceived emotional synchrony was higher when backchannel communication was present than when it was not, regardless of the level of shared identity. Consistent with the shared attention theory framework, it is plausible that the presence of backchannel communication is associated with shared attention. In turn, it may also be associated with mentalization and, in this way, related to perceived emotional synchrony. In line with this, the role of backchannel communication was explored more

thoroughly using one-way ANOVAs. Self-reported shared attention, mentalization, and perceived emotional synchrony were used as dependent variables. Table 5 presents means of these measures across study conditions.

Table 5. Means and standard deviations of shared experience measures across conditions

Conditions	Shared Attention	Mentalization	PES
Control	4.54 ^a (2.20)	3.51 ^a (2.24)	4.37 ^a (1.61)
A: SI low and BC absent	4.27 ^a (1.69)	4.00 ^{a,b} (1.89)	3.62 ^a (1.41)
B: SI high and BC absent	4.53 ^a (1.83)	3.47 ^a (1.73)	3.86 ^a (1.43)
C: SI low and BC present	5.72 ^b (1.34)	4.35 ^{a,b} (1.59)	4.70 ^a (1.88)
D: SI high and BC present	5.67 ^b (0.96)	4.76 ^b (1.68)	4.36 ^a (1.89)

Note: subscripts denote between-conditions differences ($p < .05$) according to Tukey B post hoc test where $a < b$. Abbreviations are SI = shared identity, BC = backchannel communication, and PES = perceived emotional synchrony

There was a significant difference between conditions for self-reported shared attention, $F(4, 170) = 6.07, p < .001$. A post hoc analysis supported the view that backchannel communication may be associated with shared attention. Self-reported shared attention for participants in condition A and condition B, in which backchannel communication was absent, was not statistically different from self-reported shared attention for participants in the control condition. However, self-reported shared attention for participants in condition C and condition D, in which backchannel communication was present, was statistically greater than self-reported shared attention for participants in the control condition and in conditions A and B. This suggests that backchannel communication may have rendered shared attention salient within the context of the virtual watch party experience.

Similarly, there was a significant difference between conditions for mentalization, $F(4, 171) = 3.05, p = .02$. A post hoc analysis supported the view that backchannel communication may be associated with mentalization. Mentalization was least frequent in condition B and the control condition. Further, mentalization in such conditions was not statistically different from mentalization in conditions A and C. However, mentalization was most frequent in condition D, in which shared identity was high and backchannel communication was present. Further still, the ordering of the means suggests that as opportunities for communication are introduced, mentalization increases.

The results of the ANOVA analysis for perceived emotional synchrony were significant but less clear, $F(4, 171) = 2.48, p = .046$. A post hoc analysis could not clarify the location of the significant difference between conditions, suggesting that the means were close to one another. One explanation for this may be that perceived emotional synchrony in the control condition was higher than expected ($M = 4.37, SD = 1.61$). Indeed, a one-sample t-test showed that the average perceived emotional synchrony in the control condition was significantly greater than 0, $t(34) = 16.08, p < .001, d = 2.72, 95\% CI [1.99, 3.44]$. This finding is discussed in the following chapter. Regardless, the ordering of means continues to suggest the role of backchannel communication in creating shared experiences. The mean perceived emotional synchrony in conditions A and B was ordered below that of conditions C and D. Again, this suggests the importance of opportunities to exchange messages in perceptions of emotional synchrony within virtual experiences.

Hypothesis 5. Hypothesis 5 predicted that shared attention will be positively associated with positive emotional responses. This was tested with three planned contrast

analyses, one for each positive emotional response measure (positive emotional state, overall enjoyment, and willingness to share the video). In each analysis, the control condition (coded -1) was contrasted against the pooled mean of the four other conditions (each coded +.25). The results are summarized in Table 6. There was no significant difference in positive emotional state between the control condition ($M = 5.00$, $SD = 1.45$) and the other conditions ($M = 4.99$, $SD = 1.24$), $t(171) = -.10$, $p = .46$ (one-tailed), $d = -.02$, 95% CI [-.50, .45]. A correlational analysis showed that self-reported shared attention was positively associated with positive emotional state ($n = 175$, $r = .38$, $p < .001$).

Similarly, there was no significant difference in overall enjoyment between the control condition ($M = 5.00$, $SD = 1.45$) and the other conditions ($M = 5.20$, $SD = 1.71$), $t(171) = .21$, $p = .42$ (one-tailed), $d = .04$, 95% CI [-.33, .41]. A correlational analysis showed that self-reported shared attention was positively associated with overall enjoyment ($n = 175$, $r = .36$, $p < .001$). As well, there was no significant difference in willingness to share the video between the control condition ($M = 4.29$, $SD = 2.12$) and the other conditions ($M = 4.01$, $SD = 2.12$), $t(171) = -.73$, $p = .23$ (one-tailed), $d = -.14$, 95% CI [.23, -.51]. A correlational analysis showed that self-reported shared attention was positively associated with willingness to share the video ($n = 175$, $r = .36$, $p < .001$). Taken together, these results provide support for Hypothesis 5. The greater the perception that one's attention was shared by others, the more positive their emotional response to the experience.

Table 6. Means and standard deviations of positive emotional responses across experiment conditions

Conditions	Positive Emotional State	Overall Enjoyment	Willingness to Share
Control	5.00 (1.45)	5.11 (1.61)	4.29 (2.12)
A: SI low and BC absent	5.01 (1.09)	5.30 (1.71)	4.27 (1.92)
B: SI high and BC absent	4.65 (1.30)	4.76 (1.79)	3.35 (1.95)
C: SI low and BC present	5.36 (1.09)	5.84 (1.12)	4.57 (2.08)
D: SI high and BC present	4.90 (1.42)	4.82 (1.98)	3.79 (2.41)

Notes: Abbreviations are SI = shared identity, BC = backchannel communication, and PES = perceived emotional synchrony. Subscripts are not included because means did not differ ($p < .05$) across conditions according to Tukey's B post hoc test

Given earlier results, it seemed plausible that some but not all the shared attention conditions might differ from the control condition. Exploring this would help us better understand when shared attention might be associated with positive emotional responses. ANOVAs with the three positive emotional response measures were used to explore differences between the control condition and other conditions. The result for the positive emotional state measure was not significant, $F(4,171) = 1.44, p = .22$. Similarly, the result for the willingness to share measure was not significant, $F(4,171) = 1.84, p = .12$.

Alternatively, the result for the enjoyment measure was significant, $F(1,171) = 2.45, p = .048$. A post-hoc Fisher's least significant difference (LSD) test suggested that none of the shared attention conditions were significantly different from the control condition ($p > .06$). The test further suggested that enjoyment was higher in condition C (backchannel communication present and shared identity low) than in condition B (backchannel communication absent and shared identity high, $p = .007$) and condition D (backchannel communication present and shared identity high, $p = .011$).

Hypothesis 6. Hypothesis 6 predicted that perceived emotional synchrony will be positively associated with positive emotional responses. This was tested with three multiple linear regression models, one for each positive emotional response measure (positive emotional state, overall enjoyment, and willingness to share the video). In each analysis the positive emotional response measure was regressed on perceived emotional synchrony. Additionally, for each outcome measure, control variables were added. Tendency for perceived emotional synchrony was added to better understand the role of perceived emotional synchrony within an experience relative to a general tendency for such synchrony. Self-reported shared attention was also added as a control variable given the important role it played in understanding perceived emotional synchrony. Thus, its inclusion helped to clarify which shared experience dynamics contributed to positive emotional responses and in what way they did so. The results are summarized in Table 7.

The model for positive emotional state was significant, $F(3,171) = 37.17, p < .001, R^2 = .38$. Perceived emotional synchrony was positively associated with positive emotional state, $b = .37, se = .06, p < .001$. Tendency for perceived emotional synchrony was unrelated to positive emotional state ($p = .10$). Consistent with earlier results, self-reported shared attention was positively related to positive emotional state, $b = .11, se = .05, p = .02$. The model for overall enjoyment was significant, $F(3, 171) = 26.10, p < .001, R^2 = .30$. Perceived emotional synchrony was positively associated with overall enjoyment, $b = .49, se = .08, p < .001$. Tendency for perceived emotional synchrony was unrelated to overall enjoyment ($p = .85$). Self-reported shared attention was also positively related to overall enjoyment, $b = .14, se = .07, p = .04$. The model of willingness to share was significant, $F(3, 171) = 27.85, p <$

.001, $R^2 = .32$. Perceived emotional synchrony was positively associated with willingness to share the video with others, $b = .53$, $se = .10$, $p < .001$. Tendency for perceived emotional synchrony was unrelated to willingness to share the video with others, $b = .16$, $se = .08$, $p = .06$. Self-reported shared attention was positively associated with willingness to share the video with others, $b = .19$, $se = .08$, $p = .03$. Taken together, these results suggest the importance of shared attention and perceived emotional synchrony to the quality of virtual leisure experiences.

Table 7. Results of multiple linear regression analyses for three positive emotional response measures

Predictors	Positive Emotional State			Overall Enjoyment			Willingness to Share		
	<i>b</i>	<i>se</i>	<i>p</i>	<i>b</i>	<i>se</i>	<i>p</i>	<i>b</i>	<i>se</i>	<i>p</i>
PES	.37	.06	<.001	.49	.08	<.001	.53	.10	<.001
Tendency for PES	.08	.05	.10	-.01	.07	.85	.16	.08	.06
Shared attention	.11	.05	.02	.14	.07	.04	.19	.08	.03

Notes: PES = perceived emotional synchrony; shared attention was self-reported

Chapter 5: Discussion

5.1 Chapter Overview

The growing popularity of virtual experiences challenges the centuries-old assumption that the physical presence of others' is necessary for perceived emotional synchrony. The goal of this dissertation was to explore this phenomenon. Under what conditions is such synchrony possible in virtual settings? Drawing primarily from shared attention theory, the dissertation explored how shared attention and the social context in which it occurs might influence participants' perceptions of emotional synchrony. Further, it explored key social dynamics within shared virtual experiences. This chapter discusses key findings from this research. It is organized around the three research questions offered in Chapter 1.

5.2 COVID-19 and Participation in Virtual Watch Parties (Research Question 1)

Recall that Research Question 1 asked: how is the COVID-19 pandemic associated with participation in select virtual experiences (such as virtual watch parties)? A survey was used to explore the extent to which individuals participated in virtual watch party experiences over the previous six months during the COVID-19 pandemic, how such participation differed from pre-COVID-19 participation, and how it related to plans for connecting with others soon. Many participants reported that they had not participated in a virtual watch party prior to the study. This was surprising given recent reports of the growing popularity of virtual watch parties (e.g., McCleary, 2021). One explanation for this finding is that the characteristics of the participants in the study are somewhat different from typical virtual

watch party participants. The average age of those who completed the survey was over 30 years old, and age was negatively associated with participation in virtual watch parties. It may be that virtual watch parties are most popular among younger individuals.

Relatedly, the findings suggest that several demographic variables may be useful for understanding participation in virtual watch parties. Such participation was greatest among those who identified as music enthusiasts and those with a tendency for perceived emotional synchrony. This may be useful for marketers of virtual watch parties. It suggests that virtual watch parties may offer useful simulations of analog concert experiences. Similarly, those with a greater tendency for perceived emotional synchrony participated more often in virtual watch parties. This suggests the potential of this type of virtual event to help generate shared experiences. It seems that people seeking emotional connections may find them within virtual watch parties. This suggests a “selling feature” for such events. Further, this finding suggests that virtual watch parties should be included among the list of activities that can encourage feelings associated with a “shared experience” (Gabriel et al., 2020).

There was some expectation that participants might have used virtual watch parties to engage in fitness-related virtual events. Anecdotal evidence offered in the first chapter suggested that such opportunities have increased in popularity during the pandemic. Social media is bombarded with advertisements encouraging participants to join virtual companions and instructors as they “bike”, “run” (albeit on stationary equipment) and exercise together. While these fitness-centric options may be popular among some groups, survey responses suggested that these individuals were more interested in events that were primarily social and sedentary in nature. Participants tended to use virtual platforms for social interaction. They

looked to watch parties to connect with others, as a source of companionship and entertainment opportunities. In this way, the platform seems to offer conditions consistent with health and well-being (Newman et al., 2014). This seems noteworthy. Watch parties were recognized as opportunities to connect with others within a wider social world.

The capacity and popularity of such online venues seems particularly relevant given the conditions that emerged because of the COVID-19 pandemic. As measures to control the spread of disease spread around the globe, access to social interaction in traditional analog settings was increasingly restricted. Survey participants suggest what this meant for face-to-face time spent with friends and the result was both predictable and problematic. During the pandemic, face-to-face time spent with friends dropped 39.5%. This reduction was more pronounced for those 30 and older (4.27 hours to 2.38 hours, 44.5% reduction) than for those under 30 years of age (5.49 to 3.52 hours, 35.9% reduction). It is ironic, then, that age was negatively associated with participation in virtual watch parties. The age group that lost the greatest amount of face-to-face time with friends was less likely to seek out (and benefit from) participation in online venues like watch parties.

These findings are consistent with previous research regarding older adults' internet usage and the role of such usage in understanding well-being. Internet use may be associated with greater well-being because it offers many benefits attributed to leisure activities (Nimrod, 2014). For example, internet use can provide access to positive social interactions that generate positive emotions (Nimrod, 2014). Such emotions contribute to feelings of well-being (Newman et al., 2014). Yet, many older adults are averse to using the internet because of discomfort using new technologies (called "technophobia") (Nimrod, 2020,

2021). This could explain why age was negatively associated with participation in virtual watch parties during the pandemic.

Tendency for perceived emotional synchrony was another demographic characteristic that was associated with participants' virtual watch party experiences. The more individuals tended to seek out experiences of emotional synchrony, the more often they participated in virtual watch parties. This is consistent with previous research suggesting the tendency for perceived emotional synchrony is positively associated with participation in collective events (Gabriel et al., 2017, 2020). These insights suggest that watch parties have greater appeal to those interested in connecting with others on an emotional level. This is, again, noteworthy because virtual watch parties were not previously considered opportunities for perceived emotional synchrony (Gabriel et al., 2020). These data suggest that they may represent a useful venue through which shared experience might be pursued.

Relatedly, the present research suggests that virtual leisure offerings represent increasingly important opportunities for social gathering. When physically separated from each other, virtual platforms offer the opportunity for people to connect. This perspective is not entirely new. The literature on online gaming has already suggested that virtual spaces (such as games) can act as “third places” in which people can congregate away from home and work. When individuals connect with each other through online gaming, they interact in informal ways (Steinkuehler & Williams, 2006). For example, they might offer other players information that helps with accomplishing quests. Such interactions render the virtual world of online gaming as a sociable place much like “pubs, coffee shops, and other hangouts”

(Steinkuehler & Williams, 2006, p. 886). The research presented here suggests that virtual watch parties may serve similar functions.

5.3 Shared Attention and Perceived Emotional Synchrony (Research Question 2)

Recall that Research Question 2 asked: how is shared attention associated with perceived emotional synchrony? This research question was motivated by previous anecdotal evidence that others' physical presence may not be as necessary to perceived emotional synchrony as traditionally thought. The survey data discussed above suggested that virtual experiences are opportunities for perceived emotional synchrony. This is perhaps the critical insight that emerged from the present research. We now know that others' physical presence is not necessary for the creation of shared experiences. This challenges the long-held view that the physical presence of others is a necessary condition for perceived emotional synchrony. The research suggests that dynamics of shared attention are essential to updating our understanding of conditions for perceived emotional synchrony.

It was expected that shared attention would be positively associated with perceived emotional synchrony even within a virtual setting (in this case, a virtual watch party). The results support this expected relationship. Although the analysis involving the shared attention manipulation were not statistically significant, the correlational analysis involving self-reported shared attention was significant. The more that participants perceived others were co-attending to the video, the more they perceived a shared emotional state with those others. This finding is central to updating our understanding of antecedents for perceived emotional synchrony. It suggests that the experience of sharing attention with others is important to perceived emotional synchrony.

Recall too that the study design controlled for dynamics typically associated with other viewers' physical presence. Each participant was placed in a setting absent of others' physical presence. They were unaware of others' gestures or reactions, for example. Any connection they experienced was a result of their own impressions, rather than crowd-provided cues. It seems clear that while dynamics surrounding others' physical presence may be helpful to creating shared experiences (Páez et al., 2015; Woldarczyk et al., 2020), they are not *necessary* for such experiences.

Indeed, the importance of the presence of others may be less critical than originally anticipated. Recall that perceived emotional synchrony for those in the control condition was statistically greater than zero. This was at first thought to be an artefact of the way in which participants interpreted the question. For example, participants in the control condition may have interpreted the perceived emotional synchrony items to mean a general emotional connection with others, such as when people empathize with others. People can have shared experiences asynchronously. For example, individuals who have experienced trauma report a sense of connection to others who have experienced similar traumas (Orille et al., 2020). While the traumatic events may be separated by time and space, the common emotional experience of such events is commonly described as being "shared" between individuals. Although the instructions for the scale specified the context of the video, some participants may have interpreted the scale in more generalized terms.

As the researcher pondered this possibility, he was reminded of an extensive literature on vicarious experiences. Vicarious experiences are those emotional reactions to events that individuals themselves have not directly experienced but have experienced indirectly

“through” others (Bandura, 1965). People can learn appropriate responses to situations through observation of others. Such learning may extend to emotional reactions to events. Indeed, individuals can experience a range of emotions such as fear and resentment vicariously through others even if their own personal experiences have not produced such emotions directly (Rosenbaum et al., 2005). This is common in leisure settings. Fans often experience pride and joy watching “their” team win a big game, even though they had no direct involvement in the game itself (Cialdini et al., 1976).

Taken together, these various insights suggest that the relationship between shared attention and perceived emotional synchrony could be explained by mentalization. Data from the experiment suggested that shared attention was associated with greater mentalization which, in turn, was associated with greater perceived emotional synchrony. In other words, the sense that others were co-attending encouraged participants to think more deeply about others’ experiences. These thoughts resulted in a greater sense that the experience was shared by others. Previous research demonstrated that shared attention was associated with greater mentalization (Bhargave et al., 2018). It also implied that mentalization mediated an effect of shared attention on emotional responses to co-attended stimuli (Boothby et al., 2014). The present research synthesizes these studies and extends them suggesting that mentalization is a link between shared attention and perceived emotional synchrony.

5.3.1 The Role of Social Context

The experiment demonstrated that the social context of shared attention influenced perceived emotional synchrony. Sharing attention may have contributed to the subjective sense of a shared experience, but the opportunity to communicate with co-attendees may be

an even greater contributor to perceived emotional synchrony. The presence of a simulated text-based chat box seemed to transform the virtual experience into one that participants felt they shared with others. Perceived emotional synchrony, in the presence of backchannel communication, was 21% greater than in the absence of backchannel communication. This finding is consistent with previous research on text-based emotional contagion. Exposure to others' messages may lead to mimicry and contagion of emotional states (Luo et al., 2020). By extension, it seems that such exposure also creates a sense that one's emotional state is shared by others involved in the text exchange.

This seems to reaffirm theory about social interaction in digital spaces. It has already been suggested that digital platforms are opportunities for social interaction (Barbazon, 2017). Through such social interaction, people can share content and become involved in each other's experiences (Barbazon, 2017). In this case, the virtual experience offered opportunities for social interaction in the form of backchannel communication. Such communication provided opportunity to share emotional content and mutual involvement in a shared experience.

Exploratory analyses further suggest the importance of backchannel communication to establishing shared attention. The presence of backchannel communication seemed to transform an otherwise personal experience into one that appeared to be co-attended by others. This may be relevant to our understanding of the conditions for the psychological experience of shared attention. Shared attention theory (Shteynberg, 2015) suggests that synchronicity of experiences and some relational closeness to co-attendees helps to establish

shared attention. However, the theory overlooks the role of *evidence* of one's shared attention.

As mentioned, in analog settings, shared attention is evidenced by others' gaze. In virtual settings, such gaze is typically hidden. Thus, whether those located elsewhere are *actually* also paying attention is not clear. Backchannel communication may provide evidence of others' attention. Comments shared about a co-attended stimulus clearly indicate the focus and experience of other participants. In this way, exposure to others' messages in a virtual setting may reveal others' attention and transform the experience into a shared one.

As expected, the contribution of backchannel communication to perceived emotional synchrony was greater when shared identity was low than when it was high. When shared identity was low, perceived emotional synchrony was greater for those who could exchange messages than for those who could not. However, when shared identity was high, opportunities to exchange messages was unrelated to perceived emotional synchrony. In other words, reading texts from in-group members was not important to perceived emotional synchrony, but opportunities to read out-group members' experiences very much enhanced perceived emotional synchrony.

This result may be interpreted using the mentalization and social projection literatures. Together they suggest that people project their experiences unto mental models of close others' experiences and assume that such others are experiencing a co-attended stimulus in the same way (Savitzky et al., 2011; Smith & Mackie, 2016). Thus, when shared identity is high, evidence of others' emotions or projections result in similar perceptions of emotional synchrony. On the other hand, when shared identity is low, and in the absence of

other evidence, individuals would likely default to the assumption that others' experiences are different from their own (Denning & Hodges, 2021). Backchannel communication clarifies perceived group dynamics by making clear the experience of other participants. In this way, assumptions of "differences" may be either negated or confirmed.

Contrary to expectations, shared identity was unrelated to perceived emotional synchrony. Whether the ostensible other participants shared in one's salient identity (were represented by a Canadian flag) or not (were represented by an American flag), perceived emotional synchrony remained the same. One explanation for this finding is that the shared identity manipulation was ineffective. Shared identity in this dissertation required a situational sense of self as Canadian. Yet, many participants indicated that they did not identify strongly as Canadian. Of course, Canada is a multicultural country, with residents who might identify more strongly with another country than with Canada itself. Perhaps the shared identity manipulation failed because participants themselves did not identify strongly enough as Canadians.

As well, shared identity requires *mutual* identification (Hopkins et al., 2016). That is, it involves a perception that others identify in the same way as does the individual. This was manipulated through the introduction of two national flags. However, because both Canada and America are comprised of several sub-cultures, the flag may have been insufficient evidence that the other actually identified as Canadian or American. Consequently, those who identified as Canadian may have been unsure about their relationship to others, rendering the shared identity conditions too like one another. This may, in part at least, help explain these insignificant findings.

These results might also be explained in terms of the power of emotional displays. When emotional displays (i.e., backchannel communication) were absent, participants' perceptions of emotional synchrony were higher when the experience was shared by in-group members than when it was shared by out-group members. This was the case even though their means were not significantly different from each other. When backchannel communication was present, perceived emotional synchrony was similar between the conditions. This may be because emotional expressions establish a shared identity that supersedes other group membership cues (i.e., flags). Emotional expressions signal identity and individuals can use such expressions to understand their relationship to others (Hareli & Hess, 2010). Others' text-based emotional expressions may have signaled a shared identity among participants. Whether a Canadian or American flag was present, reading that others were "teary-eyed" about the concert from the video and "missed" the band—reactions likely shared by participants—may have established that everyone's identity was shared. As such, the shared identity manipulation was rendered irrelevant by the text-based evidence of a shared experience.

This interpretation might inform how we think about emotional responses to in-group members and out-group members. Traditionally, it has been thought that individuals respond to in-group members' emotional displays in terms of emotional contagion. That is, they mimic an array of expressions shared by in-group members to a greater extent than they do for out-group members (van der Schalk et al., 2011). Emotional reactions from out-group members, on the other hand, lead to emotional divergence (van der Schalk et al., 2011). Even positive emotional displays from the out group are associated with participants' negative

reactions (Paulus & Wentura, 2014). In this case, however, emotional displays may have cemented perceptions of shared identity and shared experience. Symbols like flags and national origin may have seemed irrelevant because their emotional expression demonstrated a sense of “we-ness” about the video.

More generally, this is consistent with what leisure providers already understand well—the power of shared experiences to create feelings of togetherness. We have known for centuries that participating in leisure together can create a sense of togetherness with fellow participants (Stieler & Germelmann, 2016). Critically, the shared emotional dynamics within leisure experiences may create such togetherness regardless of everyone’s identities. Consider that people from all over the world attend massive St. Patrick’s Day parades in Ireland. At such events, shared passion for the event between locals and tourists create a sense of shared identity and togetherness that is more salient than other identity cues (O’Donnell et al., 2016).

This phenomenon seems to extend to at least some virtual experiences. This research suggests that participants may be remarkably open to connecting with others’ experiences if (even virtual) settings in which they find themselves possess key characteristics. In this case, shared backchannel communication seemed important. Such communication may transform an otherwise disjointed list of individuals into a group characterized by a shared identity. In this way, the virtual experience may have more in common with traditional leisure settings in which identities are on display (e.g., sports fans wearing team jerseys) than once thought.

For leisure providers, this may be a simple but underappreciated insight. In the wake of COVID-19, many providers and participants have sought ways to create shared

experiences in virtual settings. Some have poured resources into creating a sense of shared identity prior to experience. For instance, anecdotal experience suggests that some staff members hosting virtual classes ask participants to share personal information about themselves with classmates. Such disclosure can often create a sense of shared identity (Boothby et al., 2016). These results suggest that offering participants the opportunity to communicate (through, for example, backchannel venues) can also create positive outcomes. Instructors might ask participants to describe how they are feeling, to share favourite moments, and to describe challenges they have overcome. All such efforts might create a sense of shared experience.

5.4 Perceived Emotional Synchrony and Emotional responses (Research Question 3)

Several authors had commented that the dynamics of virtual spaces would shape the quality of virtual leisure experiences (Orton-Johnson, 2014; Schultz & McKeown, 2018). However, prior to the present research, the role of interpersonal synchrony in understanding virtual experiences was largely overlooked. The focus here was on such synchrony as it relates to a positive emotional experience. It is understood that the quality of experience is represented by individuals' positive emotional responses to the offering. In this dissertation, such responses were measured at three levels: positive emotional state, overall enjoyment, and willingness to share the video with others. Based on previous shared experience research and on the literature about need to connect with others, it was expected that both shared attention and perceived emotional synchrony would be positively associated with such positive emotional responses.

The results suggested that both shared attention and perceived emotional synchrony contributed to participants' positive emotional responses to the video. This represents perhaps the second critical insight from the present research. The greater participants' sense that others were co-attending and, more importantly, that they felt the same way about the video as did the individual, the greater their positive emotional state, overall enjoyment, and willingness to share the video with others. This finding is consistent with earlier research regarding the contribution of perceived emotional synchrony to positive emotional responses to collective events (e.g., Gabriel et al., 2020; Páez et al., 2015; Stieler & Germelmann, 2016).

Interestingly, the results suggest that overall enjoyment of the experience is highest when backchannel communication provides evidence of a shared experience with out-group members. In this case, the inclusion of flags (indicating national identity) did seem to play a role. When ostensible others who were associated with an American identity shared positive messages about the video, participants reported more enjoyment than under other conditions.

This pattern might again be explained by the notion of vicarious emotions. When individuals identify with a social entity, others' comments about that entity reflect their opinions about oneself. For instance, parents tend to respond negatively to criticism and positively to praise regarding their child (van Houtum et al., 2021). The child is an extension of their selves and so comments about the child are perceived as comments about them. In this case, participants may have identified with the Tragically Hip. Others' comments about the band may have extended to their sense of self. Positive comments about a shared experience may then have added to the enjoyment of the experience. They may have been

impressed that American viewers appreciated the performance of an iconic Canadian band. This may have been unexpected and was more powerful as a result (Neville & Reicher, 2011). These positive feelings then influenced their overall experience.

These findings extend earlier research by suggesting the influence of perceived emotional synchrony on such responses (after controlling for shared attention and tendency for perceived emotional synchrony). It also extends previous research by adding that perceived emotional synchrony influences willingness to share the video, an action tendency response. Typically, previous shared experience research (see Shteynberg et al., 2014 for an exception) had not included such a behavioural intention measure. Experience providers depend on participants sharing positive stories about their experiences with others. This suggests that creating shared experiences may be central to such providers' ongoing success.

Such findings also add to our understanding regarding the role of others in leisure service settings. We already knew that the presence, characteristics, and behaviours of others can influence participants' experiences in several ways (Colm et al., 2017). We have long understood that others' emotions influence individual participants' experiences. For example, when others' emotional displays are consistent with the emotional tone of the experience, they enhance the quality of participants' experiences and when they are inconsistent, they reduce the quality of the experience (Grove & Fisk, 1997; He et al., 2012; Miao & Mattila, 2013; Tombs & McColl-Kennedy, 2013). The present research adds that perceptions of emotional *synchrony*—not just others' emotions per se—are relevant to understanding the quality of the leisure service experience.

Further, the present findings extend our understanding of social dynamics to virtual settings. Scholars had noted that research on social dynamics in analog settings may not “generalize to service contexts in which customers interact virtually, such as digital platforms” (Colm et al., 2017, p. 236). As such, many had called for additional research on social dynamics in virtual settings to better understand leisure experiences (Wood et al., 2019) and service delivery outcomes (Bolton et al., 2018). The present research suggests that creating a sense of emotional connection to those who are located somewhere else is just as important to participants’ emotional responses as it is when participants are physically gathered. In many ways, leisure providers and researchers have always had it right: creating shared experiences is important to participants and providers alike.

These results help us to better understand virtual events in new ways. As mentioned earlier, we have traditionally thought about event experiences as consisting of multiple phases, including travelling to and from an event location. Harmon and Scott (2017) remind us that such phases are important to understanding the emotional dynamics of event experiences. Further, they suggest that such experiences are often linked to physical places. Stadiums and concert halls, for example, are prominent in sport and music event experiences, respectively. The present study suggests that the places important to individuals’ experiences need not be physical. Virtual spaces may also permit individuals to co-attend and interact in ways that establish positive emotional outcomes. In fact, they may provide ways to interact that are not currently possible in analog events. In this study, discussion in a chat forum enhanced perceived emotional synchrony and the quality of the spectator experience.

Given this understanding, it seems likely that shared experiences in virtual settings have far reaching implications for participants and providers alike. Much of the research on shared experiences in analog settings focuses on the benefits of such experiences for individuals. Two of the core themes within that research are 1) the influence of shared experiences on sense of belonging and 2) the influence of shared experiences on individual well-being. If perceived emotional synchrony can emerge in virtual settings much like it can in analog ones, then perhaps sharing experiences with others in virtual settings can also help achieve desirable outcomes.

First, the literature suggests a link between perceived emotional synchrony and individuals' sense of belonging, a feeling of connection and community shared with others. Emotional dynamics are at the heart of such belonging. As McMillan (1996) states, they are "an essential dynamic of community development" (p. 320). When individuals perceive that others share emotional responses to shared events, they recognize interpersonal similarities (Hareli & Hess, 2010). The more synchronized the emotional states, the greater the sense of similarity and connection to the other (Kühn et al., 2011). Such connection often results in feelings associated with "belongingness," including feelings of closeness, support, and trust in others (Bouchat et al., 2020; Páez et al., 2015).

If virtual experiences create perceived emotional synchrony, then they may also contribute to a sense of belonging. Given the recent growth of virtual experience providers, we are only now beginning to understand how such experiences contribute to a sense of belonging with others. Some recent research has framed this from the perspective of social capital. Zhong (2011) found that the more individuals played online games with others, the

stronger their sense of social capital both online and offline. Playing with others in an online space contributed to a sense of connection to others in that same space and to a sense of connection to others “in real life.”

Similarly, Perry et al., (2018) found that one’s relationship to others during virtual experiences (in this case, playing video games) influences a sense of social capital because it generates an experience that is intensely positive (called “harmonious passion”). The more one played with friends or strangers, the greater their passion for the game and, in turn, the greater their sense of support from and connection to others. The game offered an opportunity to feel closer to others, including those whom participants had not met offline. Such closeness enriched their gaming experience and their lives. Taken together, this and the research described earlier suggests that virtual experiences may be linked with sense of belonging because they offer opportunities for connections. Perceived emotional synchrony seems to be an exemplar of such connections.

Second, shared experience research suggests the importance of such experiences to well-being, positive evaluations of one’s life (Huppert, 2017). We know that participation in collective events can generate shared experiences (Gabriel et al., 2017). Such experiences are, in turn, associated with greater perceived well-being. For instance, studies demonstrate that perceived emotional synchrony tied to group activities is positively associated with a more positive attitude about the world, more positive emotions such as hope, and greater happiness (Gabriel et al, 2017, 2020; Páez et al., 2015).

Perhaps participation in virtual experiences is associated with well-being in a similar way. Indeed, some research suggests that internet use contributes to well-being (Lifshitz et

al., 2018; Nimrod, 2014). The positive association between such use and well-being has been attributed, in part, to positive social interactions among users (Nimrod, 2014). That is, online activity may provide an opportunity to connect with others. Such connection seems central to bolstering well-being. The present research might help provide a deeper understanding of this association. It may be that participation in virtual activities with others offers opportunities for positive shared experiences which, in turn, enhance participants' well-being.

5.5 Implications for Providers

It is abundantly clear that our leisure activity increasingly involves digital spaces and digitally mediated social dynamics. Such digitization has “brought about great opportunities for the cultural sector” (Calvo-Soraluze & Viñals Blanco, 2014, p. 38). The motivation for this research was to understand opportunities to share experiences while physically separated from others. Although interest in this topic was encouraged by the ongoing COVID-19 pandemic, it pursues questions that have been growing in importance with the proliferation of online platforms and opportunities: is the physical presence of others necessary for the creation of shared experiences? And, what does this mean for leisure service providers?

Typically, leisure providers play an important role in creating opportunities for shared experiences. Throughout the pandemic, it was largely assumed that the inability to ask participants to congregate together would mean that leisure providers were unable to create shared experiences. The results of this research suggest otherwise. More than that, they offer insights about how providers might create perceived emotional synchrony in new (virtual) types of settings. For example, participants reported that online video streaming services played a larger role in helping them connect to others during the pandemic.

Providers who offer digital content can help individuals share experiences with others in meaningful ways. Results of the survey suggest that watch party services seemed especially popular among respondents, and other leisure experiences (e.g., online gaming, fitness classes) were also used to connect with friends. As the pandemic continues, leisure providers might consider such services as ways to bring people together in an increasingly disconnected world.

The results of the experiment provide further insight regarding how leisure providers might create perceived emotional synchrony in virtual settings. Targeting the right participants is one useful approach. Not surprisingly, those who typically were more interested in shared experiences reported greater participation in virtual experiences. Again, this is consistent with previous research (Gabriel et al., 2017, 2020). It suggests that providers might promote virtual experiences as opportunities for shared experiences to those who previously attended traditional shared experiences such as festivals.

Then, the task of the provider is to create for each participant a sense that “we are attending” together. In previous research, this has been established in several ways, including providing digital representations of others (e.g., avatars) (Shteynberg et al., 2014), or presenting information about group size (e.g., “1,000 are viewing right now”) (Haj-Mohamadi et al., 2018). These straightforward strategies may help to establish a sense that each participant is part of a synchronously shared experience.

Several providers may be catching on to the importance of establishing shared attention in virtual experiences. Consider the approach recently used by Sportsnet as they broadcasted one NHL game featuring the Calgary Flames and Vancouver Canucks. The

game was scheduled during the pandemic (fans were not permitted to attend the game in-person). It seems the broadcaster sought to establish that viewers were co-attending to the game with one another by inviting viewers to share a live video of themselves. The “Flames Fan Wall” (see Figure 13) showed Calgary Flames Fans watching the game together from their own private spaces. Perhaps this created a sense that each viewer’s attention was shared by other fans.



Figure 13. The “Flames Fan Wall” as an example of highlighting shared attention during a virtual watch party (a live broadcast NHL game)

Backchannel communication also seems essential to establishing shared attention and perceived emotional synchrony. Exposure to others’ reactions to the video—and perhaps the opportunity to share one’s own reactions—heightened a sense that one’s attention and emotions were shared. As mentioned earlier, this may be an opportunity that many leisure providers have overlooked. Such providers might look to leaders in virtual experiences for

successful examples of backchannel communication. As one example, Netflix Party, a third-party browser extension for Google Chrome, offers backchannel communication within a Netflix virtual watch party. It offers viewers an opportunity to chat with each other and display their emotions during the experience (see Figure 14). The research presented in this dissertation suggests that this could render the virtual watch party a “shared” experience.



Figure 14. Screenshot of a Netflix Party in which several participants exchange messages while watching an episode of Netflix’s Tiger King.

Providers’ understanding of such strategies for creating perceived emotional synchrony will be increasingly important to the quality of participant experiences, or positive emotional responses. This is important in two ways. First, creating positive emotional responses are central to several long-term outcomes of interest to participants. Positive experiences in leisure settings are important to living a happy life (Newman et al., 2014). As mentioned earlier, participation in shared experiences that are associated with positive emotions are also associated with happiness (Bouchat et al., 2020; Gabriel et al., 2017, 2020;

Páez et al., 2015; Zumeta et al., 2016a). The mandate of many leisure providers, especially in the public and not-for-profit sectors, is to enhance quality of life (Mansfield et al., 2020). For such providers, strategies for perceived emotional synchrony may have implications for the quality of participants' lives.

Second, emotional outcomes are related to providers' success. Perceived emotional synchrony was associated with positive emotional state and overall enjoyment. Such outcomes may be related to participants' plans for patronizing the provider in the future (Hart et al., 2007). Further, perceived emotional synchrony was positively associated with willingness to share a video with others. Such sharing is a form of word-of-mouth communication. Word-of-mouth assists the provider and the client alike because it spreads the word of successful (and unsuccessful) opportunities. For the provider, positive word of mouth suggests that they are indeed fulfilling their mandate. For the client, it helps them with their own decision making. In both cases, positive word of mouth helps the provider fulfill their goals (Chevalier & Mayzlin, 2006).

5.6 Limitations and Directions for Future Research

One of the limitations of the research presented here is the experimental design. Such a design was useful because it helped to isolate variables within a shared experience. As well, because experiments are so infrequently used within leisure studies (Ellis et al., 2016), the experiment demonstrated the usefulness of that method to our literature. However, experiments typically have lower external validity than other research designs (Lynch Jr., 1982). Their tight controls can minimize dynamics that operate outside such controlled

settings. Perhaps some of the dynamics of typical virtual watch party experiences were lost within the demands of the experiment.

Related to this point, the present research relied on a simulated leisure experience. Simulated leisure experiences have been used successfully in previous studies to better understand how individuals respond to situational conditions (e.g., Mannell & Bradley, 1986). The benefit of such simulations is that the research can examine effects of specific situational variables that would be difficult to monitor in the field (Kleiber et al., 2011). At the same time, simulated leisure experiences are just that—simulated. They are perhaps not completely accurate representations of the leisure experiences that occur naturally in everyday life.

Together, these limitations suggest the need for field research on the relationship between shared attention and shared experience. Observations of leisure participants during their freely chosen activity can reveal much about how situations influence leisure experience (Kleiber et al., 2011). As mentioned earlier, such field research has been the dominant approach to understanding shared leisure experiences. Future research could build from this dissertation and related studies (e.g., Páez et al., 2015) with a focus on shared attention. For example, studies might examine differences in perceptions of emotional synchrony for participants who watched a movie privately and those who chose to do so synchronously with friends. Such studies would be more externally valid than the experiment described here and so could provide new insights about how shared attention influences shared experiences. A focus on virtual experience settings is greatly needed in such future research.

Another limitation of the present research is that the shared experience examined here involved manipulations and stimuli relevant to a single identity, that being “Canadian”. As with any identity, a Canadian identity carries specific meanings and norms. For example, multiculturalism is central to the Canadian identity (Vaswani et al., 2021). That is, Canadians are socialized toward permissive attitudes about people from different cultural and ethnic backgrounds. Such norms could have influenced the results of the study. Indeed, Canadian participants seemed to connect just as well with their American peers as with fellow Canadians.

This suggests the need to replicate the present experiment using different identity contexts. Fortunately, many leisure settings lend themselves to the activation of situational identities (Jun & Kyle, 2012). Individuals identify with various sport, recreation, and tourism/hospitality activities and services, as well as the providers who offer those and the places in which they are offered. Future research might explore how shared attention relates to shared experience in any number identity-relevant situations. As one example, a study could examine how shared attention among online fitness class members (whose “fitness” identity has been rendered salient) is linked with the strength of shared experiences within the class.

Another important limitation to the external validity of this study was the choice of text included in the backchannel communication manipulation. Such text was crafted for this study and based on comments toward similar videos actually posted to YouTube. It was assumed that such text would be harmonious, at least to some extent, with participants’ own emotional responses to the video. Thus, the backchannel communication in this dissertation

represents one that is in-synch with participants' experiences. Consistent with previous research, such "harmonious" text may have enabled emotional contagion and amplified recipients' own emotions (Luo et al., 2020).

However, there are several instances of backchannel communication that is not harmonious with participants' experiences. Fellow attendees might share disagreements in an online chat. In some cases, others' text can be outright discriminatory or belligerent. Such instances of negative or "unharmonious" backchannel communication were not explored in the present research. Future research could explore how specific content of backchannel communication might help or hinder the creation of perceived emotional synchrony in virtual settings.

Indeed, leisure settings seem ripe for exploring both positive and negative collective experience. While this study focused on a positive experience, leisure settings can be intentionally difficult (Lee et al., 1994). Indeed, many leisure experiences that are unpleasant are intentionally designed to be that way and are sought after. For example, some "dark" tourism experiences evoke feelings such as shame and sorrow. Consider that Nazi extermination camps such as Auschwitz draws thousands of visitors each year. Many such visitors feel saddened during their visit, but also report some emotional benefit to their visits (Biran et al., 2011). It would be interesting to explore how shared attention and perceived emotional synchrony influence emotional outcomes within such settings. Such an exploration would help us better understand how perceptions related to sharing experiences influence the quality of such experiences.

The present research also focuses on emotional outcomes tied closely to the experience itself. Yet, many emotional dynamics play out after the experience has concluded (Lemon & Verhoef, 2016). For instance, emotions originally tied to leisure episodes “live on” in participants’ memories. Understanding how emotions inform memory is important for several reasons. An emergent literature suggests that perceived emotional synchrony may crystallize memories of the leisure experience (Wood, 2020; Wood & Kenyon, 2018; Wood & Kinnunen, 2020). For instance, narratives recently collected from festival participants (Wood & Kinnunen, 2020) suggested that shared emotional states attached to an event enhanced how vividly such experiences were recalled and how frequently they were communicated to others following the event. More research in this vein could help us understand how shared experience dynamics influence memory and subsequent leisure behaviour.

Future efforts might also explore the influence of shared experiences on so-called demonstration effects. Demonstration effects suggest that watching elite athletes can inspire others to participate in the sport that is spectated (Weed, 2009). Recent research on demonstration effects has focused mostly on the influence of spectators’ personal experiences on participatory outcomes (e.g., Potwarka et al., 2018; Teare et al., 2021). While social (e.g., normative) influences on demonstration outcomes are also posited (Bakhsh et al., 2021), the role of perceived emotional synchrony in such outcomes has not been examined.

From a shared attention perspective, watching elite sport with others should influence the extent to which responses to the sport on display are perceived as being shared by others. In turn, perceptions of emotional synchrony may amplify demonstration effects. For instance,

watching elite sport often generates a sense of inspiration which can in turn influence intentions to try the sport (Potwarka et al., 2018). Perceiving that one's experience is shared might amplify such inspiration. This is consistent with research on the role of shared experiences in empowering and mobilizing people toward social action and change (e.g., Páez et al., Zumeta et al., 2016a). Perhaps sharing an inspiring moment is a catalyst toward greater participation in sport and recreation.

Future research might also continue to explore the dynamics of virtual leisure experiences. As was mentioned earlier, it seems clear that our lives have become increasingly digital. Consequently, much of our leisure is spent engaging with virtual experiences (Schultz & McKeown, 2018). New technologies and virtual experiences have proliferated at an unprecedented rate and are not well-understood from a leisure perspective. Although "leisure scholars have made progress in recent years toward carving out a more prominent place for studying digital leisure, [...] a greater emphasis needs to be placed on this area of leisure scholarship moving forward." (Schultz & McKeown, 2018, p. 226). The present research sought to address Schultz and McKeown's (2018) call for research in the context of virtual watch parties. More research is needed to satisfy this call to action from our leisure studies colleagues.

A final avenue for future shared experience research involves a focus on staff. The present research focused on a context that did not involve staff members. However, many shared experiences are heavily influenced by staff involvement. Staff members may be important to creating shared experiences. They manage dynamics between participants in ways that might help or hinder emotional connections (Arnould & Price, 1993; Tutenges,

2013). Traditionally, such dynamics have been tied to physical spaces, such as encouraging physical contact between participants (Tutenges, 2013). However, we know less about how staff might contribute to perceived emotional synchrony in virtual settings. Staff are increasingly involved in such settings. Consider that now more than ever, yoga and spin classes are offered by staff through the convenience of a computer screen.

Perhaps in virtual spaces, staff can create a sense of shared experience through emotional leadership. Emotional leadership involves demonstrating emotions for others (Humphrey, 2002). Such leadership is common in group leisure settings. Consider emotional leadership expressed by Peloton trainers. They demonstrate a range of emotions during class from pain and exhaustion to relief and joy. Such emotional expressions can be contagious for individual participants (Hennig-Thurau et al., 2006; Groth et al., 2009). More than that, from an emotional leadership perspective, such expressions may create a “tone” for the class (Barsade & Gibson, 2012; Sy et al., 2005). Each participant might then “take on” the leader’s emotions and understand that others in class have done so, too. This could result in perceived emotional synchrony.

One context that may be well-suited to explore this phenomenon is that of live-streamed sports. In June 2021, during the 2021 NHL playoffs, Sportsnet offered its content for free on YouTube. Typically, fans would have to pay for a subscription to Sportsnet to live-stream a game. Instead, as viewers watched for free, they could exchange messages with each other. More than that, the program was promoted as “Watch a Habs Game with Steve Dangle” (see Figure 15). Steve Dangle is the stage name of a popular hockey-related social media pundit who is a staff member of Sportsnet.

Throughout the broadcast, Steve provided commentary on the game. Such commentary replaced the typical in-game commentary that would include play-by-play analysis. Rather than comment on plays and patterns, Steve offered insights about players' contracts, which players' performances were most surprising throughout the playoffs, and which teams might make it through to the next round of play. Further, Steve addressed comments posted in the chat (see right side of Figure 15). Future research might ask: how might Steve's involvement in the broadcast, in conjunction with the backchannel communication offered by YouTube's technology, have transformed viewers' experiences?



Figure 15. Screenshot from YouTube during a live-streamed NHL playoff game presented as “Watch a Habs Game with Steve Dangle”.

Research on staff could also investigate whether (and if so, when, and how) staff members also perceive emotional synchrony with their participants. Service research suggests that participants' emotions influence staff members' emotions (Zablah et al., 2017),

but it is not clear whether such influence results for staff in a sense of shared experience.

Arnould and Price (1993) first observed that participants and staff come to share emotional states throughout whitewater rafting adventures. In their research, staff and participants literally experienced the same conditions as they travelled together downstream. The authors seemed to suggest that such shared activity could result in a sense of shared experience for staff with their participants.

Kane and Zink (2004) also noted that shared experiences in adventure groups emerge between “the guides, drivers, the first named researcher, and other kayakers and non-kayakers encountered during the tour” (p. 333). If staff perceive emotional synchrony with their participants, what conditions are important to such synchrony? Previous research (Arnould & Price, 1993; Kane & Zink, 2004) suggests that shared physical space may be important. When staff and participants’ bodies move in the same way, they may develop a sense of shared experience. This is consistent with the literature on the role of behavioural synchrony in creating shared experiences (Stieler & Germelmann, 2016; Wheatley et al., 2012) but it may be limited to analog settings and may not be applicable to virtual settings.

Another possibility is that shared passion is relevant to understanding shared experiences between staff and participants. Consider that concessions staff may be just as excited by a game-winning home run as the fans in attendance. Indeed, many leisure service staff are passionate about what they do, and their passion drives them to connect with their participants in special ways (McCarville & Drewery, 2019). Social appraisal theory (Manstead & Fischer, 2001) suggests that a shared passion for an activity would lead individuals toward similar emotional reactions in that activity. When passion is shared,

emotions may also be shared. An exploration of this topic could help us better understand who is involved in shared experiences and what role(s) do they fulfill.

5.7 Conclusion

It seems part of human nature to seek out opportunities to share experiences with others (Jolly et al., 2019). For centuries, leisure settings have provided such opportunities. We always assumed that such settings encouraged perceived emotional synchrony because they attracted like-minded people and then facilitated processes that created a sense of shared experience. Processes involving physical properties, such as proximity and behavioural synchrony, were thought to be necessary for perceived emotional synchrony. However, the recent growth of virtual experiences, especially during the COVID-19 pandemic, suggested that shared experiences may not require the physical presence of other people.

This dissertation suggested that individuals are turning to virtual experiences such as virtual watch parties now more than ever as they seek new opportunities to connect with others. It also suggested that physical proximity is an important, but not essential, element to perceived emotional synchrony. Backchannel communication seems a useful and effective alternative in creating a sense of shared experience. Such communication offered confirmation that “we are attending” together, regardless of the identity cues provided by fellow participants. Further, such communication seemed to encourage thinking about others’ experiences, or mentalization. These dynamics together pointed toward a greater sense that others shared in the virtual experience. Consequently, the more the experience felt like it was shared, the more positive the emotional reaction to it.

These findings reaffirm the importance of shared experiences to participants and providers. They also extend our understanding of shared experiences to virtual settings, where it was once thought such experiences were not possible. In this way, the dissertation updates our thinking on conditions for perceived emotional synchrony, placing the social context of shared attention in focus for the first time. The dissertation also begins to suggest strategies that providers of virtual experiences might use to create positive shared experiences. Finally, it offers several avenues for future exploration of conditions and consequences of perceived emotional synchrony in various leisure settings.

References

- Albrecht, A. K., Walsh, G., & Beatty, S. E. (2017). Perceptions of group versus individual service failures and their effects on customer outcomes: The role of attributions and customer entitlement. *Journal of Service Research, 20*(2), 188-203.
- Argyle, M. (1996). *The social psychology of leisure*. Penguin.
- Arnould, E. J., & Price, L. L. (1993). River magic: Extraordinary experience and the extended service encounter. *Journal of Consumer Research, 20*(1), 24-45.
- Ayer, N., & McCarville, R. (2021). Forging connections and community within an online tennis forum. In Glover, T. D., & Sharpe, E. K. (Eds.), *Leisure communities: Rethinking mutuality, collective identity and belonging in the new century* (pp. 28-37). Routledge.
- Bagozzi, R. P., Gopinath, M., & Nyer, P. U. (1999). The role of emotions in marketing. *Journal of the Academy of Marketing Science, 27*(2), 184-206.
- Baimel, A., Severson, R. L., Baron, A. S., & Birch, S. A. (2015). Enhancing “theory of mind” through behavioral synchrony. *Frontiers in Psychology, 6*(870).
<https://doi.org/10.3389/fpsyg.2015.00870>
- Bakhsh, J. T., Potwarka, L. R., Naraine, M. L., & Wear, H. (2021). Reconceptualizing a model of demonstration effects: integrating rational, affective, and behavioral constructs. *European Sport Management Quarterly, 1-22*.
- Bandura, A. (1965). Vicarious processes: A case of no-trial learning. *Advances in Experimental Social Psychology, 2*, 1-55.

- Brabazon, T. (2017). Afterword: Digital physical cultural studies? In M. Silk, D. L. Andrews, & H. Thorpe (Eds.), *Routledge handbook of physical cultural studies* (pp. 597–603). Routledge.
- Barger, P. B., & Grandey, A. A. (2006). Service with a smile and encounter satisfaction: Emotional contagion and appraisal mechanisms. *Academy of Management Journal*, *49*(6), 1229-1238.
- Baron-Cohen, S. (1995). The eye direction detector (EDD) and the shared attention mechanism (SAM): Two cases for evolutionary psychology. In Moore C., Dunham, P.J. (Eds.), *Joint attention: Its origins and role in development* (pp. 41-59). Erlbaum.
- Barsade, S. G., & Gibson, D. E. (2012). Group affect: Its influence on individual and group outcomes. *Current Directions in Psychological Science*, *21*(2), 119-123.
- Bastiaansen, M., Lub, X. D., Mitas, O., Jung, T. H., Ascenção, M. P., Han, D. I., Moilanen, T., Smit, B., & Strijbosch, W. (2019). Emotions as core building blocks of an experience, *International Journal of Contemporary Hospitality Management*, *31*(2), 651-668.
- Berdychevsky, L., & Nimrod, G. (2015). “let's talk about sex”: Discussions in seniors' online communities. *Journal of Leisure Research*, *47*(4), 467-484.
- Bhargave, R. P., Montgomery, N. V., & Redden, J. P. (2018). Collective satiation: How coexperience accelerates a decline in hedonic judgments. *Journal of Personality and Social Psychology*, *114*(4), 529-546.
- Biran, A., Poria, Y., & Oren, G. (2011). Sought experiences at (dark) heritage sites. *Annals of Tourism Research*, *38*(3), 820-841.

- Bolton, R. N., McColl-Kennedy, J. R., Cheung, L., Gallan, A., Orsingher, C., Witell, L., & Zaki, M. (2018). Customer experience challenges: bringing together digital, physical and social realms. *Journal of Service Management, 29*(5), 776-808.
- Boothby, E. J., Clark, M. S., & Bargh, J. A. (2014). Shared experiences are amplified. *Psychological Science, 25*(12), 2209-2216.
- Boothby, E. J., Smith, L. K., Clark, M. S., & Bargh, J. A. (2016). Psychological distance moderates the amplification of shared experience. *Personality and Social Psychology Bulletin, 42*(1), 1431-1444.
- Bouchat, P., Rimé, B., Van Eycken, R., & Nils, F. (2020). The virtues of collective gatherings: A study on the positive effects of a major scouting event. *Journal of Applied Social Psychology, 50*, 189-201.
- Brubaker, J. R., Venolia, G., & Tang, J. C. (2012). Focusing on shared experiences: Moving beyond the camera in video communication. In Proceedings of the Designing Interactive Systems Conference (pp. 96-105). ACM.
- Calvo-Soraluze, J., & Viñals Blanco, A. (2014). Stimulating attendees' leisure experience at music festivals: Innovative strategies and managerial processes. *Global Journal of Management and Business Research, 14*(2), 37-52.
- Chapman, A. J. (1975). Eye contact, physical proximity and laughter: A re-examination of the equilibrium model of social intimacy. *Social Behavior and Personality: An International Journal, 3*(2), 143-155.

- Chen, Y., Gao, Q., & Rau, P. L. P. (2017). Watching a movie alone yet together: Understanding reasons for watching Danmaku videos, *International Journal of Human-Computer Interaction*, 33(9), 731-743.
- Chevalier, J. A., & Mayzlin, D. (2006). The effect of word of mouth on sales: Online book reviews. *Journal of Marketing Research*, 43(3), 345-354.
- Cialdini, R. B., Borden, R. J., Thorne, A., Walker, M. R., Freeman, S., & Sloan, L. R. (1976). Basking in reflected glory: Three (football) field studies. *Journal of Personality and Social Psychology*, 34(3), 366.
- Clark, M. S., Lemay, E. P., Reis, H. T., Funder, D., & Sherman, R. (2017). Other people as situations: Relational context shapes psychological phenomena. In D. Funder & R. Sherman (Eds.), *Oxford handbook of situations* (pp. 1-40). Oxford University Press.
- Colm, L., Ordanini, A., & Parasuraman, A. (2017). When service customers do not consume in isolation: A typology of customer copresence influence modes (CCIMs). *Journal of Service Research*, 20(3), 223-239.
- Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical assessment, research, and evaluation*, 10(7), 1-9.
- Crisp, R. J., & Turner, R. N. (2009). Can imagined interactions produce positive perceptions?: Reducing prejudice through simulated social contact. *American Psychologist*, 64(4), 231-240.
- De Rivera, J., & Páez, D. (2007). Emotional climate, human security, and cultures of peace. *Journal of Social Issues*, 63(2), 233-253.

- Denning, K. R., & Hodges, S. D. (2021). When polarization triggers out-group “counter-projection” across the political divide. *Personality and Social Psychology Bulletin*, 01461672211021211.
- Doherty, R. W., Orimoto, L., Singelis, T. M., Hatfield, E., & Hebb, J. (1995). Emotional contagion: Gender and occupational differences. *Psychology of Women Quarterly*, 19(3), 355-371.
- Du, J., Fan, X., & Feng, T. (2014). Group emotional contagion and complaint intentions in group service failure: The role of group size and group familiarity. *Journal of Service Research*, 17(3), 326-338.
- Durkheim, E. (1912). *The elementary forms of the religious life* (J. W. Swain, Trans.). Free Press.
- Dziuban, C. D., Shirkey, E. C., & Peebles, T. O. (1979). An investigation of some distributional characteristics of the measure of sampling adequacy. *Educational and Psychological Measurement*, 39(3), 543-549.
- Ellis, G., Lee, K. J., & Satchabut, T. (2016). Experimental designs in leisure studies. In G. J. Walker, D. Scott, & M. Stodolska (Eds.), *Leisure matters: The state and future of leisure studies* (pp. 333-343). Venture Publishing, Inc.
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175-191.

- Finger, H., Goeke, C., Diekamp, D., Standvoß, K., and König, P. (2017). LabVanced: A unified JavaScript framework for online studies. In 2017 International Conference on Computational Social Science IC2S2 (Cologne).
- Furr, R. M., & Rosenthal, R. (2003). Evaluating theories efficiently: The nuts and bolts of contrast analysis. *Understanding Statistics: Statistical Issues in Psychology, Education, and the Social Sciences*, 2(1), 33-67.
- Gabriel, S., Naidu, E., Paravati, E., Morrison, C. D., & Gainey, K. (2020). Creating the sacred from the profane: Collective effervescence and everyday activities. *The Journal of Positive Psychology*, 15(1), 129-154.
- Gabriel, S., Valenti, J., Naragon-Gainey, K., & Young, A. F. (2017). The psychological importance of collective assembly: Development and validation of the Tendency for Effervescent Assembly Measure (TEAM). *Psychological Assessment*, 29(11), 1349-1362.
- Garcia, D., & Rimé, B. (2019). Collective emotions and social resilience in the digital traces after a terrorist attack. *Psychological Science*, 30(4), 617-628.
- Government of Canada (2021). *Coronavirus disease (COVID-19)*.
<https://www.canada.ca/en/public-health/services/diseases/coronavirus-disease-covid-19.html>
- Gross, J. J. (1999). Emotion regulation: Past, present, and future. *Cognition & Emotion*, 13(5), 551–573.

- Groth, M., Hennig-Thurau, T., & Walsh, G. (2009). Customer reactions to emotional labor: The roles of employee acting strategies and customer detection accuracy. *Academy of Management Journal*, 52(5), 958-974.
- Grove, S. J., & Fisk, R. P. (1997). The impact of other customers on service experiences: a critical incident examination of “getting along”. *Journal of Retailing*, 73(1), 63-85.
- Gupta, P., & Harris, J. (2010). How e-WOM recommendations influence product consideration and quality of choice: A motivation to process information perspective. *Journal of Business Research*, 63(9-10), 1041-1049.
- Hacker, J., vom Brocke, J., Handali, J., Otto, M., & Schneider, J. (2020). Virtually in this together—how web-conferencing systems enabled a new virtual togetherness during the COVID-19 crisis. *European Journal of Information Systems*, 29(5), 563-584.
- Haggard, L. M., & Williams, D. R. (1992). Identity affirmation through leisure activities: Leisure symbols of the self. *Journal of Leisure Research*, 24(1), 1-18.
- Haimson, O. L., & Tang, J. C. (2017). What makes live events engaging on Facebook Live, Periscope, and Snapchat. In G. Mark, S. Fussell (Eds.), *Proceedings of the 2017 CHI conference on human factors in computing systems* (pp. 48-60), Association for Computing Machinery.
- Haj-Mohamadi, P., Fles, E. H., & Shteynberg, G. (2018). When can shared attention increase affiliation? On the bonding effects of co-experienced belief affirmation. *Journal of Experimental Social Psychology*, 75, 103-106.

- Han, E., & Lee, S. W. (2014). Motivations for the complementary use of text-based media during linear TV viewing: An exploratory study. *Computers in Human Behavior, 32*, 235–243.
- Hareli, S., & Hess, U. (2010). What emotional reactions can tell us about the nature of others: An appraisal perspective on person perception. *Cognition and Emotion, 24*(1), 128-140.
- Harmon, J. (2016). Couples and shared leisure experiences. *World Leisure Journal, 58*(4), 245-254.
- Harmon, J., & Dunlap, R. (2018). The temporal phases of leisure experience: Expectation, experience and reflection of leisure participation. *Leisure Sciences, 40*(5), 326-342.
- Harmon, J., & Scott, D. (2017). The extended leisure experiences of music scene participation. *Leisure/Loisir, 41*(4), 585-605.
- Hart, C., Farrell, A. M., Stachow, G., Reed, G., & Cadogan, J. W. (2007). Enjoyment of the shopping experience: Impact on customers' repatronage intentions and gender influence. *The Service Industries Journal, 27*(5), 583-604.
- Hatfield, E., Carpenter, M., & Rapson, R. L. (2014). Emotional contagion as a precursor to collective emotions. In C. von Scheve & M. Salmela (Eds.), *Collective emotions* (pp. 108-122). Oxford University Press.
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.
- He, Y., Chen, Q., & Alden, D. L. (2012). Consumption in the public eye: The influence of social presence on service experience. *Journal of Business Research, 65*(3), 302-310.

- Hennig-Thurau, T., Groth, M., Paul, M., & Gremler, D. D. (2006). Are all smiles created equal? How emotional contagion and emotional labor affect service relationships. *Journal of Marketing, 70*(3), 58-73.
- Hindley, D. (2020). “More than just a run in the park”: an exploration of parkrun as a shared leisure space. *Leisure Sciences, 42*(1), 85-105.
- Hogg, M. A., Sherman, D. K., Dierselhuis, J., Maitner, A. T., & Moffitt, G. (2007). Uncertainty, entitativity, and group identification. *Journal of Experimental Social Psychology, 43*(1), 135-142.
- Hollan, D. (2008). Being there: On the imaginative aspects of understanding others and being understood. *Ethos, 36*(4), 475-489.
- Hopkins, N., Reicher, S. D., Khan, S. S., Tewari, S., Srinivasan, N., & Stevenson, C. (2016). Explaining effervescence: Investigating the relationship between shared social identity and positive experience in crowds. *Cognition and Emotion, 30*(1), 20-32.
- Humphrey, R. H. (2002). The many faces of emotional leadership. *The Leadership Quarterly, 13*(5), 493-504.
- Huppert, F. A. (2017). Challenges in defining and measuring well-being and their implications for policy. In *Future directions in well-being* (pp. 163–167). Springer.
- Ibañez, A., & Manes, F. (2012). Contextual social cognition and the behavioral variant of frontotemporal dementia. *Neurology, 78*(17), 1354-1362.
- Jahn, S., Cornwell, T. B., Drengner, J., & Gaus, H. (2018). Temporary communitas and willingness to return to events. *Journal of Business Research, 92*, 329-338.

- Jamieson, L. (2013). Personal Relationships, Intimacy and the Self in a Mediated and Global Digital Age. In Kate Orton-Johnson, Nick Prior (Eds.), *Digital Sociology Critical Perspectives* (pp. 13-33). Palgrave Macmillan.
- Jolly, E., Tamir, D.I., Burum, B., & Mitchell, J.P. (2019) Wanting without enjoying: The social value of sharing experiences. *PLoS ONE* 14(4): e0215318.
<https://doi.org/10.1371/journal.pone.0215318>
- Jun, J., & Kyle, G. T. (2012). Gender identity, leisure identity, and leisure participation. *Journal of Leisure Research*, 44(3), 353-378.
- Kahneman, D. (2011). *Thinking, fast and slow*. Macmillan.
- Kane, M. J., & Zink, R. (2004). Package adventure tours: Markers in serious leisure careers. *Leisure Studies*, 23(4), 329-345.
- Kappen, D. L., Mirza-Babaei, P., Johannsmeier, J., Buckstein, D., Robb, J., & Nacke, L. E. (2014). Engaged by boos and cheers: The effect of co-located game audiences on social player experience. In *Proceedings of the first ACM SIGCHI annual symposium on Computer-human interaction in play* (pp. 151-160). ACM.
- Kiesler S., Siegal J., McGuire, T.W. (1984). Social psychological aspects of computer-mediated communication. *American Psychologist*, 39(10), 1123-1134.
- Kleiber, D. A., Walker, G. J., & Mannell, R. C. (2011). *A social psychology of leisure* (2nd ed.). Venture Publishing, Inc.
- Konis, D., Haran, U., Saporta, K., & Ayal, S. (2016). A sorrow shared is a sorrow halved: Moral judgments of harm to single versus multiple victims. *Frontiers in psychology*, 7(1142). <https://doi.org/10.3389/fpsyg.2016.01142>

- Kramer, A. D. I., Guillory, J. E., & Hancock, J. T. (2014). Experimental evidence of massive-scale emotional contagion through social networks. *PNAS*, *111*(24), 8788-8790.
- Kühn, S., Müller, B. C., van der Leij, A., Dijksterhuis, A., Brass, M., & van Baaren, R. B. (2011). Neural correlates of emotional synchrony. *Social Cognitive and Affective Neuroscience*, *6*(3), 368-374.
- Kyle, G., & Chick, G. (2004). Enduring leisure involvement: The importance of personal relationships. *Leisure Studies*, *23*(3), 243-266.
- Ladhari, R. (2009). Service quality, emotional satisfaction, and behavioural intentions. *Managing Service Quality: An International Journal*, *19*(3), 308-331.
- Lamm, C., Batson, C. D., & Decety, J. (2007). The neural substrate of human empathy: Effects of perspective-taking and cognitive appraisal. *Journal of Cognitive Neuroscience*, *19*(1), 42-58.
- Lee, Y., Dattilo, J., & Howard, D. (1994). The complex and dynamic nature of leisure experience. *Journal of Leisure Research*, *26*(3), 195-211.
- Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. *Journal of Marketing*, *80*(6), 69-96.
- Lesser, I. A., & Nienhuis, C. P. (2020). The impact of COVID-19 on physical activity behavior and well-being of Canadians. *International Journal of Environmental Research and Public Health*, *17*(11), <https://doi.org/10.3390/ijerph17113899>
- Liebst, L. S. (2019). Exploring the sources of collective effervescence: A multilevel study. *Sociological Science*, *6*, 27-42.

- Lifshitz, R., Nimrod, G., & Bachner, Y. G. (2018). Internet use and well-being in later life: A functional approach. *Aging & Mental Health, 22*(1), 85-91.
- Liston, K., & Kitching, N. (2019). Our wee country': national identity, golf and 'Ireland. *Sport in Society, 23*(5), 864-879.
- Ludvigsen, J. A. L. (2021). Between security and festivity: The case of fan zones. *International Review for the Society of Sport, 56*(2), 233-251.
- Luo, M., Hsu, T. W., Park, J. S., & Hancock, J. T. (2020). Emotional amplification during live streaming: Evidence from comments during and after news events. *Proceedings of ACM on Human-Computer Interaction*. <https://doi.org/10.1145/3392853>
- Lynch Jr, J. G. (1982). On the external validity of experiments in consumer research. *Journal of Consumer Research, 9*(3), 225-239.
- Mannell, R. C., & Bradley, W. (1986). Does greater freedom always lead to greater leisure? Testing a person X environment model of freedom and leisure. *Journal of Leisure Research, 18*(4), 215-230.
- Mansfield, L., Daykin, N., & Kay, T. (2020). Leisure and wellbeing. *Leisure Studies, 39*(1), 1-10.
- Manstead, A. S., & Fischer, A. H. (2001). Social appraisal. In Scherer, K. R., Schorr, A., & Johnstone, T. (Eds.), *Appraisal processes in emotion: Theory, methods, research* (pp. 221-232). Oxford University Press.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*(2), 224-253.

- Martin, L. J., Hathaway, G., Isbester, K., Mirali, S., Acland, E. L., Niederstrasser, N., ... & Mogil, J. S. (2015). Reducing social stress elicits emotional contagion of pain in mouse and human strangers. *Current Biology*, 25(3), 326-332.
- McCarthy, J. F., & Boyd, D. M. (2005, April). Digital backchannels in shared physical spaces: experiences at an academic conference. In Proceedings from CHI 2005 Human Factors in Computing Systems (pp. 1641-1644).
https://dl.acm.org/doi/pdf/10.1145/1056808.1056986?casa_token=q8UwiHMKsJ4AA:AAA:vG9Esd8HT4RMQm1Ppm9m66bAcnzS8PeS27ScSRdnMiaYldF3hgXmb-h8zmLbr0tPCMtWRMXMb_Ip
- McCarville, R. E., & Drewery, D. W. (2019). Relational dynamics supporting client orientation: Perspectives from the front lines of service delivery. *Journal of Park and Recreation Administration*, 37(2), 65-79.
- McCleary, S. (2021, August 16). Fringe Festival returns with more artists, 'watch parties'. Sault This Week. <https://www.saultthisweek.com/news/local-news/fringe-festival-returns-with-more-artists-watch-parties>
- McGillivray, D. (2014). Digital cultures, acceleration and mega sporting event narratives. *Leisure Studies*, 33(1), 96-109.
- McMillan, D. W. (1996). Sense of community. *Journal of Community Psychology*, 24(4), 315-325.
- Miao, L., & Mattila, A. S. (2013). The impact of other customers on customer experiences: A psychological distance perspective. *Journal of Hospitality & Tourism Research*, 37(1), 77-99.

- Muntean, R., Neustaedter, C., & Hennessy, K. (2015) synchronous yoga and meditation over distance using video chat. In *Proceedings of the 41st Graphics Interface Conference* (pp. 187-194). <http://clab.iat.sfu.ca/pubs/Muntean-VideoChatYoga-GI2015.pdf>
- Nagy, J., & Midha, A. (2014). The value of earned audiences: How social interactions amplify TV impact: What programmers and advertisers can gain from earned social impressions. *Journal of Advertising Research*, 54(4), 448-453.
- Nanaimo News Staff. (2020, July 5). *Infringing festival finds a way to dance during pandemic*. Nanaimo News Bulletin. <https://www.nanaimobulletin.com/entertainment/infringing-festival-finds-a-way-to-dance-during-pandemic/>
- Neustaedter, C., Procyk, J., Chua, A., Forghani, A., & Pang, C. (2020). Mobile video conferencing for sharing outdoor leisure activities over distance. *Human-Computer Interaction*, 35(2), 103-142.
- Neville, F., & Reicher, S. (2011). The experience of collective participation: Shared identity, relatedness and emotionality. *Contemporary Social Science*, 6(3), 377-396.
- Newcomer, E. (2020, April 24). *Peloton attracts a record 23,000 people to single workout class*. Bloomberg. <https://www.bloomberg.com/news/articles/2020-04-24/peloton-attracts-a-record-23-000-people-to-single-workout-class>
- Newman, D. B., Tay, L., & Diener, E. (2014). Leisure and subjective well-being: A model of psychological mechanisms as mediating factors. *Journal of Happiness Studies*, 15(3), 555-578.

- Nielsen. (2020, April 20). *Nearly 21 million viewers watch one world: Together at home concert*. <https://www.nielsen.com/us/en/press-releases/2020/nearly-21-million-viewers-watch-one-world-together-at-home-concert/#:~:text=Television%20Audience%20Estimates&text=New%20York%20%E2%80%94April%202020%2C%202020,Saturday%2C%20April%2018%2C%202020> 20.
- Nimrod, G. (2014). The benefits of and constraints to participation in seniors' online communities. *Leisure Studies*, 33(3), 247-266.
- Nimrod, G. (2020). Technostress in a hostile world: older internet users before and during the COVID-19 pandemic. *Aging & Mental Health*, 1-8.
<https://doi.org/10.1080/13607863.2020.1861213>
- Nimrod, G. (2021). Not good days for technophobes: Older internet users during the COVID-19 pandemic. *Educational Gerontology*, 47(4), 160-171.
- Norris, P. (2002). The bridging and bonding role of online communities. *Press/Politics*, 7(3), 3-13.
- O'Donnell, A. T., Muldoon, O. T., Blaylock, D. L., Stevenson, C., Bryan, D., Reicher, S. D., & Pehrson, S. (2016). 'Something that unites us all': Understandings of St. Patrick's Day parades as representing the Irish national group. *Journal of Community & Applied Social Psychology*, 26(1), 61-74.
- Orille, A. C., Marton, V., & Taku, K. (2020). Posttraumatic growth impacts views of others' trauma: The roles of shared experience and gender. *Journal of Humanistic Psychology*, 0022167820961928.

- Orton-Johnson, K. (2014). Knit, purl and upload: New technologies, digital mediations and the experiences of Leisure. *Leisure Studies*, 33(3), 305–321.
- Páez, D., Rimé, B., Basabe, N., Włodarczyk, A., & Zumeta, L. (2015). Psychosocial effects of perceived emotional synchrony in collective gatherings. *Journal of Personality and Social Psychology*, 108(5), 711-729.
- Paolacci, G., & Chandler, J. (2014). Inside the Turk: Understanding Mechanical Turk as a participant pool. *Current Directions in Psychological Science*, 23(3), 184-188.
- Paulus, A., & Wentura, D. (2014). Threatening joy: Approach and avoidance reactions to emotions are influenced by the group membership of the expresser. *Cognition & Emotion*, 28(4), 656-677.
- Pelletier, M. J., & Collier, J. E. (2018). Experiential purchase quality: exploring the dimensions and outcomes of highly memorable experiential purchases. *Journal of Service Research*, 21(4), 456-473.
- Pelletier, P. (2018). The pivotal role of perceived emotional synchrony in the context of terrorism: Challenges and lessons learned from the March 2016 attack in Belgium. *Journal of Applied Social Psychology*, 48(9), 477-487.
- Perry, R., Drachen, A., Kearney, A., Kriglstein, S., Nacke, L. E., Sifa, R., Wallner, G., & Johnson, D. (2018). Online-only friends, real-life friends or strangers? Differential associations with passion and social capital in video game play. *Computers in Human Behavior*, 79, 202-210.
- Postmes, T., Haslam, S. A., & Jans, L. (2013). A single-item measure of social identification: Reliability, validity, and utility. *British Journal of Social Psychology*, 52(4), 597-617.

- Potwarka, L. R., Drewery, D., Snelgrove, R., Havitz, M. E., & Mair, H. (2018). Modeling a demonstration effect: The case of spectators' experiences at 2015 Pan Am Games' track cycling competitions. *Leisure Sciences, 40*(6), 578-600.
- Raghunathan, R., & Corfman, K. (2006). Is happiness shared doubled and sadness shared halved? Social influence on enjoyment of hedonic experiences. *Journal of Marketing Research, 43*(3), 386-394.
- Ramanathan, S., & McGill, A. L. (2007). Consuming with others: Social influences on moment-to-moment and retrospective evaluations of an experience. *Journal of Consumer Research, 34*(4), 506-524.
- Reddish, P., Tong, E. M. W., Jong, J., Lanman, J. A., & Whitehouse, H. (2016). Collective synchrony increases prosociality toward non-performers and outgroup members. *British Journal of Social Psychology, 55*, 722-738.
- Reed, A. (2004). Activating the self-importance of consumer selves: Exploring identity salience effects on judgments. *Journal of Consumer Research, 31*(2), 286-295.
- Reed, A., Forehand, M. R., Puntoni, S., & Warlop, L. (2012). Identity-based consumer behavior. *International Journal of Research in Marketing, 29*(4), 310-321.
- Rennung, M., & Göritz, A. S. (2016). Prosocial consequences of interpersonal synchrony. *Zeitschrift für Psychologie, 224*, 168-189.
- Rojas de Francisco, L., López-Sintas, J., & García-Álvarez, E. (2016). Social leisure in the digital age. *Loisir et Société, 39*(2), 258-273.
- Ron, Y., & Nimrod, G. (2018). Digital negotiation: Online leisure in coping with gender stereotypes. *Leisure Sciences, 40*(4), 251-266.

Rose, M. (2020). Tomorrowland around the world draws more than 1 million viewers.

Dancing Astronaut. <https://dancingastronaut.com/2020/07/tomorrowland-around-the-world-draws-over-1-million-viewers/>

Rosenbaum, D. P., Schuck, A. M., Costello, S. K., Hawkins, D. F., & Ring, M. K. (2005).

Attitudes toward the police: The effects of direct and vicarious experience. *Police Quarterly*, 8(3), 343-365.

Rossmann, J. R., & Ellis, G. D. (2012). Thoughts on experience: Introduction to the special issue. *Journal of Park and Recreation Administration*, 30(3), 1-6.

Savitsky, K., Keysar, B., Epley, N., Carter, T., & Swanson, A. (2011). The closeness-communication bias: Increased egocentrism among friends versus strangers. *Journal of Experimental Social Psychology*, 47(1), 269-273.

Schultz, C. S., & McKeown, J. K. (2018). Introduction to the special issue: Toward “digital leisure studies”. *Leisure Sciences*, 40(4), 223-238.

Schwarz, N., & Clore, G. L. (2007). Feelings and phenomenal experiences. In A. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (2nd ed., pp. 385-407). Guilford.

Schweitzer, S., & Waytz, A. (2020). Language as a window into mind perception: How mental state language differentiates body and mind, human and nonhuman, and the self from others. *Journal of Experimental Psychology: General*.

<https://psycnet.apa.org/doi/10.1037/xge0001013>

- Shteynberg, G., & Apfelbaum, E. P. (2013). The power of shared experience: Simultaneous observation with similar others facilitates social learning. *Social Psychological and Personality Science*, 4(6), 738-744.
- Shteynberg, G., Hirsh, J. B., Apfelbaum, E. P., Larsen, J. T., Galinsky, A. D., & Roese, N. J. (2014). Feeling more together: Group attention intensifies emotion. *Emotion*, 14(6), 1102-1114.
- Shteynberg, G., Bramlett, J. M., Fles, E. H., & Cameron, J. (2016). The broadcast of shared attention and its impact on political persuasion. *Journal of Personality and Social Psychology*, 111(5), 665-673.
- Shteynberg, G. (2010). A silent emergence of culture: The social tuning effect. *Journal of Personality and Social Psychology*, 99(4), 683-689.
- Shteynberg, G. (2015). Shared attention. *Perspectives on Psychological Science*, 10(5), 579-590.
- Silk, M., Millington, B., Rich, E., & Bush, A. (2016). (Re-)thinking digital leisure. *Leisure Studies*, 35(6), 7112-723.
- Sintas, J. L., de Francisco, L. R., & Álvarez, E. G. (2015). The nature of leisure revisited: An interpretation of digital leisure. *Journal of Leisure Research*, 47(1), 79-101.
- Sjoblom, M. & Hamari, J. (2017). Why do people watch others play video games? An empirical study on the motivations of Twitch users. *Computers in Human Behavior*, 75, 985-996.

- Smith, E. R., & Mackie, D. M. (2016). Representation and incorporation of close others' responses: The RICOR model of social influence. *Personality and Social Psychology Review, 20*(4), 311-331.
- Spangler, T. (2020, April 15). *Andrea Bocelli's Easter Sunday performance breaks YouTube record*. Variety. <https://variety.com/2020/digital/news/andrea-bocelli-easter-sunday-live-youtube-records-1234580981/#article-comments>
- Steinkuehler, C. A., & Williams, D. (2006). Where everybody knows your (screen) name: Online games as "third places". *Journal of Computer-Mediated Communication, 11*(4), 885-909.
- Stieler, M., & Germelmann, C. C. (2016). The ties that bind us: Feelings of social connectedness in socio-emotional experiences. *Journal of Consumer Marketing, 33*(6), 397-407.
- Sy, T., Côté, S., & Saavedra, R. (2005). The contagious leader: impact of the leader's mood on the mood of group members, group affective tone, and group processes. *Journal of Applied Psychology, 90*(2), 295-305.
- Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and intergroup behaviour. *European Journal of Social Psychology, 1*(2), 149-178.
- Tamminen, K. A., Palmateer, T. M., Denton, M., Sabiston, C., Crocker, P. R., Eys, M., & Smith, B. (2016). Exploring emotions as social phenomena among Canadian varsity athletes. *Psychology of Sport and Exercise, 27*, 28-38.
- Tanis, M., & Postmes, T. (2007). Two faces of anonymity: Paradoxical effects of cues to identity in CMC. *Computers in Human Behavior, 23*(2), 955-970.

- Teare, G., Potwarka, L. R., Snelgrove, R., & Drewery, D. (2021). Inspiring participation in a new sport opportunity: exploring the role of event experience and spectator characteristics. *Event Management*, 25(3), 227-244.
- Thoits, P. A. (2020). “We know what they’re going through”: social support from similar versus significant others. *The Sociological Quarterly*, 1-22.
<https://doi.org/10.1080/00380253.2020.1802360>
- Tombs, A. G., & McColl-Kennedy, J. R. (2013). Third party customers infecting other customers for better or for worse. *Psychology & Marketing*, 30(3), 277-292.
- Travis, L. A., Lyness, J. M., Shields, C. G., King, D. A., & Cox, C. (2004). Social support, depression, and functional disability in older adult primary-care patients. *The American Journal of Geriatric Psychiatry*, 12(3), 265-271.
- Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Basil Blackwell.
- Tutenges, S. (2013). Stirring up effervescence: An ethnographic study of youth at a nightlife resort. *Leisure Studies*, 32(3), 233-248.
- van der Schalk, J., Fischer, A., Doosje, B., Wigboldus, D., Hawk, S., Rotteveel, M., & Hess, U. (2011). Convergent and divergent responses to emotional displays of ingroup and outgroup. *Emotion*, 11(2), 286-298.
- van Houtum, L. A., Wever, M. C., Janssen, L. H., van Schie, C. C., Will, G. J., Tollenaar, M. S., & Elzinga, B. M. (2021). Vicarious praise and pain: Parental neural responses to social feedback about their adolescent child. *Social cognitive and affective neuroscience*, 16(4), 406-417.

- van Leeuwen, M., Klerks, Y., Bargeman, B., Heslinga, J., & Bastiaansen, M. (2020). Leisure will not be locked down—insights on leisure and COVID-19 from the Netherlands. *World Leisure Journal*, *62*(4), 339-343.
- Vaswani, M., Safdar, S., Newby-Clark, I. R., & Giguère, B. (2021). Canadian identity attenuates the negative impact of familial rejection on psychological distress. *International Journal of Intercultural Relations*, *81*, 142-153.
- von Scheve, C., Beyer, M., Ismer, S., Kozłowska, M., & Morawetz, C. (2014). Emotional entrainment, national symbols, and identification: A naturalistic study around the men's football World Cup. *Current Sociology*, *62*(1), 3-23.
- Weed, M. (2009). *The potential of the demonstration effect to grow and sustain participation in sport*. Canterbury Christ Church University: Centre for Sport, Physical Education & Activity Research (SPEAR).
- Wheatley, T., Kang, O., Parkinson, C., & Looser, C. E. (2012). From mind perception to mental connection: Synchrony as a mechanism for social understanding. *Social and Personality Psychology Compass*, *6*(8), 589-606.
- Wiens, S., & Nilsson, M. E. (2017). Performing contrast analysis in factorial designs: From NHST to confidence intervals and beyond. *Educational and Psychological Measurement*, *77*(4), 690-715.
- Włodarczyk, A., Zumeta, L., Pizarro, J. J., Bouchat, P., Hatibovic, F., Basabe, N., & Rimé, B. (2020). Perceived emotional synchrony in collective gatherings: Validation of a short scale and proposition of an integrative measure. *Frontiers in Psychology*, *11*(1721). <https://doi.org/10.3389/fpsyg.2020.01721>

- Wood, E. H. (2020). I remember how we all felt: Perceived emotional synchrony through tourist memory sharing. *Journal of Travel Research*, 59(8), 1339-1352.
- Wood, E. H., & Kenyon, A. J. (2018). Remembering together: The importance of shared emotional memory in event experiences. *Event Management*, 22(2), 163-181.
- Wood, E. H., & Kinnunen, M. (2020). Emotion, memory and re-collective value: shared festival experiences. *International Journal of Contemporary Hospitality Management*, 32(3), 1275-1298.
- Wood, L., Hoerber, O., Snelgrove, R., & Hoerber, L. (2019). Computer science meets digital leisure: Multiple perspectives on social media and eSport collaborations. *Journal of Leisure Research*, 50(5), 425-437.
- Zablah, A. R., Sirianni, N. J., Korschun, D., Gremler, D. D., & Beatty, S. E. (2017). Emotional convergence in service relationships: the shared frontline experience of customers and employees. *Journal of Service Research*, 20(1), 76-90.
- Zhong, Z. J. (2011). The effects of collective MMORPG (Massive Multiplayer Online Role-Playing Games) play on gamers' online and offline social capital. *Computers in Human Behavior*, 27(6), 2352-2363.
- Zumeta, L. N., Oriol, X., Telletxea, S., Amutio, A., & Basabe, N. (2016b). Collective efficacy in sports and physical activities: Perceived emotional Synchrony and shared flow. *Frontiers in Psychology*, 6(1960), <https://doi.org/10.3389/fpsyg.2015.01960>
- Zumeta, L., Basabe, M., Włodarczyk, A., Bobowik, M., & Páez, D. (2016a). Shared flow and positive collective gatherings. *Anales de Psicología*, 32(3), 717-727.

Appendix A

Information Letter

You are invited to participate in a dissertation research study conducted by David Drewery under the supervision of Dr. Ron McCarville, Department of Recreation and Leisure Studies at the University of Waterloo.

The study is about online watching experiences, such as when individuals watch live-streamed concerts from their own private spaces. The purpose of study is to better understand how people experience such online content. This is important as online watching experiences are increasingly popular today. The information provided below will help you make an informed decision regarding your participation in the study.

What does participation involve?

Participation in the study will consist of three tasks. The first task is to respond to demographic questions, including your previous experiences watching online content. For example, we will ask you whether you have participated in a "watch party" through various online platforms. The second task is to watch a brief video clip about a recent musical event. You will be asked to pay attention to the video and reflect on how it makes you feel. The third task is to answer a few questions about the video that you watched. For example, you will be asked about what you felt feeling during your viewing experience. It is estimated that participation will require 15 minutes of your time.

Is participation in the study voluntary?

Your participation in this study is voluntary. You may decide to leave the study at any time by closing your browser window. The dataset will be anonymized after it is collected by removing MTurk IDs and as such it will not be possible to remove your data from the study because the researchers will have no way of identifying which responses are yours.

Will I receive anything for participating in the study?

In appreciation of your time, you will receive a total of (CAD)\$2.50 through the MTurk system. You may decline to answer any questions that you do not wish to answer, and you can withdraw your participation at any time by ceasing to answer questions without penalty or loss of remuneration. To receive remuneration please proceed to the end of the questionnaire, obtain the unique code for this HIT, and submit it.

What are the possible benefits and risks associated with the study?

Participation in this study may not provide any personal benefit to you but may generate scientific benefits in the research community. The risks associated with participation in this study are expected to be no greater than what you might experience in your day-to-day life. Specifically, it is possible that watching the video in this study could evoke a mild negative emotional response.

Will my identity be known?

Because this is an anonymous survey the researchers have no way of identifying you or getting in touch with you should you choose to tell us something about yourself or your life experiences. However, when information is transmitted over the internet privacy cannot be guaranteed. There is always a risk your responses may be intercepted by a third party (e.g., government agencies, hackers). University of Waterloo researchers will not collect or

use internet protocol (IP) addresses or other information which could link your participation to your computer or electronic device without first informing you.

Will my information be kept confidential?

Your identity will be kept confidential and your worker ID will not be included or in any other way associated with the data collected in the study. Once you have submitted your responses it is not possible to withdraw your consent to participate as we have no way of knowing which responses are yours. The anonymized dataset will be secured by encryption and will be password protected. We will keep our study records for a minimum of 10 years. All records are destroyed according to University of Waterloo policy.

Has the study received ethics clearance?

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee (ORE#43124). If you have questions for the Committee contact the Office of Research Ethics at 1-519-888-4567, Ext. 36005 or ore-ceo@uwaterloo.ca.

Who should I contact if I have questions regarding my participation in the study?

If you have any questions regarding this study or would like additional information to assist you in reaching a decision about participation, please contact David Drewery at dwdrewery@uwaterloo.ca or Dr. Ron McCarville at ron.mccarville@uwaterloo.ca

Do you consent to participate in this study? By providing consent, you are not waiving your legal rights or releasing the investigator(s) or involved institution(s) from their legal and professional responsibilities.

- No, I do not consent to participate

- Yes, I consent to participate

Appendix B

Survey Content

We are interested in your experience with virtual watch parties. Virtual watch parties are those events in which you and others watch online content together from separate locations. For example, you might be at home watching something with a friend who is at their own, different home.

1. How often do you participate in virtual watch parties?
 - a. I have never participated in a virtual watch party
 - b. Rarely (e.g., once or twice in the past)
 - c. Sometimes (e.g., once or twice a month)
 - d. Often (e.g., once or twice a week)
 - e. Very often (e.g., everyday or almost everyday)

If you have never participated in a virtual watch party, you can skip to the next page.

2. Which of the following platforms have you used to participate in a virtual watch party (select all that apply)?
 - a. Facebook Live
 - b. GroupWatch (for Disney Plus)
 - c. Hulu Watch Party
 - d. Netflix Party/Teleparty
 - e. Prime Video Watch party
 - f. Twitch

- g. YouTube Live
 - h. Zoom
 - i. Other
3. For which of the following activities have you had a virtual watch party (select all that apply)?
- a. Watching a concert or musical act
 - b. Watching/participating in a fitness class or video
 - c. Watching a movie
 - d. Watching someone play a video game
 - e. Watching a sporting event
 - f. Watching a television show
 - g. Watching a special event such as a wedding, birthday party, funeral, or baby shower
 - h. Other
4. In your previous watch party experience(s), how often are some or all of the other participants people you do not know personally?
- a. Never
 - b. Rarely
 - c. Sometimes
 - d. Often
 - e. Very often
5. To what extent do you plan to participate in a virtual watch party in the next month?

- a. 1 = Not at all to 7 = Very much

The next few pages of the study contain questions about who you are and how you spend your time. Please remember, your responses will be anonymous.

- 6. Before COVID-19, on a typical day, how much face-to-face time did you spend with friends?
 - a. [sliding scale from 0 to 24 hours]
- 7. What percentage of this time was spent online?
 - a. [sliding scale from 0 to 100%]
- 8. Currently, on a typical day, how much face-to-face time do you spend with friends?
 - a. [sliding scale from 0 to 24 hours]
- 9. What percentage of this time was spent online?
 - a. [sliding scale from 0 to 100%]
- 10. If COVID-19 was suddenly to be eliminated today, how would your face-to-face time with friends change compared to now?
 - a. It would decrease greatly
 - b. It would decrease slightly
 - c. It would stay the same
 - d. It would increase slightly
 - e. It would increase greatly
- 11. If COVID-19 was suddenly to be eliminated today, how would your face-to-face time with friends online change compared to now?
 - a. It would decrease greatly

- b. It would decrease slightly
- c. It would stay the same
- d. It would increase slightly
- e. It would increase greatly

12. What is your age in years?

- a. [open text box]

13. What is your gender?

- a. Male
- b. Female
- c. Other
- d. Prefer not to say

14. To what extent do you agree with the following statements about yourself? [1 = Fully disagree to 7 = Fully agree]

- a. I identify as Canadian
- b. I identify as a music enthusiast
- c. I feel very connected to others when in a large group activity I like, like going to a concert, church, or convention
- d. I like attending festivals because I like to be around all of the people

Appendix C

Instructions for Experiment: No Shared Attention

Condition

In which country do you reside?

- Canada
- USA

Thank you for completing the survey portion of the study. In the next part of the study, you will be asked to watch a short video then report on your experience. You can choose the theme of the video you prefer from the following drop-down list.

[participants choose between the following]

- Culture
- Recent History
- Music

Based on your preference, here is a description of the clip you will be watching:

On August 20, 2016, the Canadian musical group "The Tragically Hip" played its final show. The Canadian Broadcasting Corporation broadcast the concert as "The Tragically Hip: A National Celebration". In Canada, it is estimated that 11.7 million people live-streamed the show.

During the concert, the band played 30 songs and three encores. At the end of the show, millions of fans from Halifax to Vancouver sang the Tragically Hip's last song, "Ahead by a Century".

You are about to see a clip of that song.

Make sure your audio/headphones are ready. When you are ready, click to the next page.

[video stimulus is administered]

Thank you for watching.

The following questions are about your experience of the video you just watched.

When you are ready, click to the next page.

Appendix D

Instructions for Experiment: Shared Attention Conditions

In which country do you reside?

- Canada
- USA

Thank you for completing the survey portion of the study. In the next part of the study, you will be asked to watch a short video then report on your experience.

You will be watching the video with a small group of other participants who are also participating in the study right now as part of a MTurk Microbatch. Please note that you may experience some delays as your computer "syncs up" with others during the viewing experience.

You can choose the theme of the video you prefer from the following drop-down list. You will be matched with other participants with the same preference as yours.

[participants choose between the following]

- Culture
- Recent history
- Music

Based on your preference, here is a description of the clip you and others will be watching:

On August 20, 2016, the Canadian musical group "The Tragically Hip" played its final show.

The Canadian Broadcasting Corporation broadcast the concert as "The Tragically Hip: A

National Celebration". In Canada, it is estimated that 11.7 million people live-streamed the show.

During the concert, the band played 30 songs and three encores. At the end of the show, millions of fans from Halifax to Vancouver sang the Tragically Hip's last song, "Ahead by a Century".

You are about to see a clip of that song.

Make sure your audio/headphones are ready. When you are ready, click to the next page.

You may experience delays while waiting for others.

Waiting for others to join...

When ready, you will be taken to the next page

[video stimulus is administered]

Thank you for watching.

The Microbatch portion of the study is now over. You can proceed without any delays from others.

The following questions are about your experience of the video you just watched.

When you are ready, click to the next page.

Appendix E

Post-Stimulus Questionnaire

1. Did you see and hear the video?
 - a. Yes, I saw and heard the video
 - b. No, I had difficulty seeing and/or hearing the video
2. To what extent did you feel that others focused their attention on the same video that you watched at the same time that you did?
 - a. 1 = Not at all to 7 = A lot
3. While watching this video, how often did you think about other people watching the video?
 - a. 1 = I never had this thought to 7 = I often had this thought
4. To what extent did you feel that other people were physically "with you" while you watched the video?
 - a. 1 = Not at all to 7 = Very much
5. To what extent do you agree with the following statements? [1 = Not at all to 7 = Very much]
 - a. While watching this video, I experienced the same feelings that others experienced
 - b. While watching this video, my experience was common with others
 - c. While watching this video, I felt on the same "wavelength" as others
 - d. While watching this video, I felt a strong shared emotion

6. How did you feel while watching the video?
 - a. 1 = ashamed to 7 = proud
 - b. 1 = uninspired to 7 = inspired
 - c. 1 = disappointed to 7 = encouraged
 - d. 1 = sad to 7 = happy
7. What was your overall enjoyment of watching this video?
 - a. 1 = not at all enjoyable to 7 = very enjoyable
8. To what extent would you be willing to share this video with your friends?
 - a. 1 = Not at all to 7 = Very much

Appendix F

Study Debrief Letter

Title of Project: Exploring Perceived Emotional Synchrony in an Online Context: An Experiment

Student Investigator: David Drewery, dwdrewery@uwaterloo.ca

Faculty Supervisor: Dr. Ron McCarville, Department of Recreation and Leisure Studies, ron.mccarville@uwaterloo.ca

We appreciate your participation in our study and thank you for spending the time helping us with our research. The purpose of this study debrief letter is to provide additional details about the study you just participated in.

You were originally told that this study was designed to better understand how people experience online content such as watch parties. While we were indeed interested in studying this topic, the study objective was more involved from what we originally explained to you.

In this study, we are actually interested in understanding how people develop a sense of "shared experience" with others who are located somewhere else, and how such a sense of shared experience influences emotional outcomes of participating in activities. Past research has focused on shared experiences that involve congregation, such as when people meet up at a sporting event or festival. Less is known about how people shared in digital experiences, such as online watch parties, with people who are located elsewhere. We think that shared attention may be important to understanding a sense of shared experience. Shared attention

means believing that others are paying attention to the same thing at the same time.

Exploring this further may provide insight into how to create shared experiences when people are unable to meet together in person.

We designed a study in which some people were randomly assigned to a control condition while others were randomly assigned to one of several experimental conditions. In the control condition, we did not mention any other participants. In the experimental conditions, we created situations in which participants might have believed other people were sharing their attention to the video in the study. Further, we manipulated whether attention was shared with people similar to you (in this case, located in Canada versus the United States), and whether you could confirm your shared attention (through a "live" text chat). In reality, each participant went through the study privately and alone, and attention was never shared by others.

You were randomly assigned to the in group with text condition. This means the others ostensibly participating with you were from the same country as yours and you could exchange messages with them.

The reason we needed to use deception in this study was because we needed participants' behaviour and attitudes to be as natural as possible. To summarize:

1. The purpose of this study was to explore how solitary experiences might best be transformed into "shared" ones and how such transformations impact participants' experiences.

2. Your participation was private. No other people shared attention to any part of the study while you participated. Any reference to others was part of a deception. The others were entirely fictitious.

We apologize for not providing you with complete and accurate information about the purpose of the study, but we hope you understand why this was necessary.

Since this study involves some aspects that you were not told about before starting, it is very important that you not discuss your experiences with others who potentially could be in this study. If people come into the study knowing about our specific predictions, as you can imagine, it could influence their results, and the data we collected would not be usable.

As a reminder, your identity will be kept confidential, and your worker ID will not be included or in any other way associated with the data collected in the study. The anonymized dataset will be secured by encryption and will be password protected. We will keep our study records for a minimum of 10 years. All records are destroyed according to University of Waterloo policy.

Since some elements of the study are different from what was originally explained, there is another consent form for you to read and complete, if you are willing to allow us to use the information you have provided. This consent is also a record that the full purpose of the study was explained to you.

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee (ORE#43124). If you have questions for the

Committee contact the Office of Research Ethics, at 1-519-888-4567 ext 36005 or ore-ceo@uwaterloo.ca.

For all other questions contact David Drewery, dwdrewery@uwaterloo.ca.

We really appreciate your participation and hope that this has been an interesting experience for you.

I have questions about the use of deception in this study (If yes, contact David Drewery, dwdrewery@uwaterloo.ca)

- Yes
- No

I give my permission for the researchers to use my data and/or the information I provided through the online survey for this study.

- Yes
- No

Appendix G

Thank You Letter

Thank you for your interest in this study.

I would like to thank you for your participation in this study entitled "Exploring Perceived Emotional Synchrony in an Online Context: An Experiment". As a reminder, the purpose of this study is to explore how solitary leisure service experiences might best be transformed into "shared" ones and how such transformations impact the leisure service experience.

The data collected in the study will contribute to a better understanding of how leisure service experiences traditionally characterized as "solitary" might be perceived as "shared".

As a reminder, this study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee (ORE#43124). If you have questions for the Committee contact the Office of Research Ethics at 1-519-888-4567 ext. 36005 or ore-ceo@uwaterloo.ca.

For all other questions or if you have general comments or questions related to this study, please contact David Drewery, Department of Recreation and Leisure Studies, Faculty of Health, University of Waterloo. Email: dwdrewery@uwaterloo.ca.

Please remember that your identity will be kept confidential and your worker ID will not be included or in any other way associated with the data collected in the study. Once all the data are collected and analyzed for this project, we plan on sharing this information with the research community through seminars, conferences, presentations, and journal articles. If

you are interested in receiving more information regarding the results of this study, please contact the researchers and, when the study is completed, anticipated by December 2021, we will send you the information. In the meantime, if you have any questions about the study, please do not hesitate to contact me by email as noted below.

David Drewery,

University of Waterloo

Department of Recreation and Leisure Studies

519-888-4567 ext. 37342

dwdrewery@uwaterloo.ca.