Texting, Calling, and Zooming, Oh My!: Young Adult's Communication Preferences During the COVID-19 Pandemic

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ABSTRACT

COVID-19 has impacted the lifestyles of many people forcibly, one of the major groups being adolescents. This shift from in-person to virtual settings has raised questions about whether COVID-19 has changed teenagers' social communication preferences. Distributing an online survey that uses a 7-point scale and a Computer-Mediated Communication (CMC) vs. Face-to-Face (FtF) communication questionnaire adapted from a previous study (Eser et al, 2011), data was gathered on 38 US teenagers between the ages of 13 to 19, mostly from California, that experienced the pandemic, especially the lockdowns. CMC can be defined as, "a process in which human data interaction occurs through one or more networked telecommunication systems" (*What is Computer-Mediated Communication (CMC)? - Definition from Techopedia*, n.d.). In comparison, FtF communication is classified when, "two or more persons talk to each other and see each other physically" (bizcom_coach, 2015).

Through analyzing the results, the researchers found that more participants chose higher points, meaning they agree or strongly agree, when asked to correlate FtF communication with positive communication statements. The majority of participants chose lower points, meaning they disagree or strongly disagree, when asked to correlate CMC with positive communication statements. These strong notations of disagreement were specifically present with synchronous CMC. The results of the survey indicate that more participants chose FtF communication rather than CMC as their preferred method of communication in various situations. Collectively, the evidence implies that the impacts of COVID-19 have resulted in a preference of FtF communication over both synchronous and asynchronous CMC in US teenagers, with synchronous CMC being the least preferred mode of communication.

I. INTRODUCTION

Research on teenagers' communication preferences during the COVID-19 pandemic is extremely prevalent and important as communication is a crucial part of teenager's development (*Effective communication and teenagers - ReachOut Parents*, 2020). As COVID-19 has had a large impact on the different communication methods that are available to teenagers (Taunton, 2021), this study could reveal the deeper implications of this topic. For example, the shift in modes of communication could explain certain social phenomena such as an increase in anxiety in teenagers during COVID-19 pandemic (Jester & Kang, 2021). This topic is extremely relevant due to the great implications of COVID-19. This study explores whether the increase in online communication has satisfied young Americans' previous preference and common use of CMC communication (Gallup, 2014), or if COVID-19 has caused young Americans to appreciate more of the FtF communication that was unavailable throughout the COVID-19 lockdown. While studies have been done on communication preferences of people of all ages pre-pandemic (Eser et al, 2011), this study offers the perspective of teenagers' communication preference during the COVID-19 pandemic.

Through the literature reviewed, most adopted the methodology of a quantitative survey study (Eser et al, 2011). Previous studies suggest teenagers' use and preference of social media had increased substantially in the past whereas their preference for FtF communication has declined substantially (Thayer & Ray, 2006). For college students or older adults, the overall consensus suggested that people preferred FtF communication even though they still used virtual networking sites more frequently (Thayer & Ray, 2006). Overall, it has been shown that communication preferences vary significantly based on different factors such as age, occupation, or the purpose of communication. Therefore, this study would explore whether the impacts of the pandemic could be another factor that alters the communication preferences in teenagers.

Computer-Mediated Communication versus Face-to-Face Communication in Adolescents

Computer-Mediated-Communication in Adolescents

Computer-mediated communication (CMC) has been labeled as the foundation of networking and electronic communities (D'ambra et. al. 2010). As CMC became popularized throughout organizations, more researchers began drafting theories as to how individuals are choosing between different modes of virtual communication: media richness theory (MRT) and uncertainty reduction theory (URT). Previous literature focused mainly on how these theories may have impacted the communication efficiencies and preferences of individuals in the workspace or higher-level education (Lancaster et al, 2007). Understanding the results and implications of these previous studies, despite different demographics, may offer us important context and information to effectively shape our research and methodologies.

Media Richness Theory

Media richness theory, proposed by Daft and Lengel in 1986, revealed the idea that rich information can change a recipient's understanding more quickly than lean information (Lancaster et al, 2007). Rich information allows interaction and communication, as opposed to lean information that often just conveys information (Lancaster et al, 2007). Lean information does have the ability to change the recipient's understanding but will require far more time than rich information will to achieve the same result (Lancaster et al, 2007). MRT is often cited when proposing a question about how different communication mediums could affect task performance. This theory proposes that a person's overall performance is directly related to how well the communication medium is able to convey rich information.

A study conducted by Balaji (2010) helped explore this common theory on media richness and task performance. In this study, Balaji attempted to extend the current understanding of MRT to learning effectiveness in online forums. The instructor first posed a question about course content covered in the ongoing week. Then, students were required to post their responses or comments to the instructor and group members' postings. The findings indicated that the perceived richness of online discussion forums has significant positive effects on student participation and interaction, especially when used along with traditional classroom lectures. Overall, the study further suggested that using multiple mediums of instruction enriches communication contextualization and leads to enhanced learning.

An earlier study conducted by Kil Soo Suh (1999), focused on the effects of four different communication media on objective task performance and task satisfaction in an intellective and a negotiation task, directly contradicted MRT. The study supports the conclusion that the different interaction mediums have little to no effect on decision quality or decision time. Although the structure of the MRT may be correct, the actual differences in the richness of communication mediums are practically insignificant.

Because the difference in communication mediums are "practically insignificant" and have "little to no effect" on task performance (Suh, 1999), at least in a workspace setting, the research reviewed in this paper will not further explore whether using different CMC mediums might affect communication preferences. This research did not focus on the number of mediums that teenagers use for communication; however, it does address two different forms of CMC: synchronous and asynchronous. Since synchronous communication would be considered more "rich," and asynchronous communication would be considered more "lean," by exploring both synchronous and asynchronous forms of CMC, we could address how media richness could affect communication efficiency or preference.

Uncertainty Reduction

Another topic helping the study of communication is the uncertainty reduction theory (URT). URT indicates that the process of gaining information through forms of communication will allow one to understand the behaviors of another better and reduce uncertainty (Berger & Calabrese, n.d.). Although URT originated from FtF conditions, it has been more widely studied to exist under CMC circumstances.

Fox and Anderegg examined how a social networking site (SNS) is used to seek information about a potential or current romantic partner (2014). In a survey, Facebook users were presented with Facebook behaviors categorized as passive, active, or interactive uncertainty reduction strategies. Participants reported how normative they perceived these behaviors to be during four possible stages of relationship development

before meeting FtF, after meeting FtF, casual dating, and exclusive dating. The results of this study show that normative and acceptable behaviors online change as the stage of a relationship changes. Although CMC and FtF communication differ in many factors such as the absence of nonverbal cues in CMC, it was clear that in both mediums of communication, users frequently attempted to reduce uncertainty when they communicate with other individuals. However, there are more passive ways of uncertainty reduction in CMC compared to FtF communication, such as reading a partner's profile. This may be socially more acceptable whilst still achieving similar goals as other uncertainty reduction strategies that are implemented through FtF communication. Thus, this research will indirectly address whether the difference in uncertainty reduction processes would result in a difference in communication preferences. It does so by asking questions such as, whether asynchronous or synchronous forms of CMC are more conducive for "quickening development of relationship" than FtF communication. That is because the main difference in uncertainty reduction between FtF and CMC lies in the passive information seeking that often occurs in the beginning stages of a relationship.

Benefits of Computer-Mediated Communication

A study done by Pierce in 2009 tested the anxiety of teenagers under both virtual and FtF circumstances. The results revealed the positive relationship between the social anxiety of the participants when they are communicating FtF (2009). In other words, the participants felt more comfortable talking with others through CMC. In addition, the same study indicated a lack of social anxiety when making friends online. While Pierce's study focused only on social anxiety when developing new relationships, the study from this paper examines the communication preferences of teenagers in general for a variety of purposes.

Face To Face Communication

Benefits of Face to Face Communication

FtF communication enhances greater levels of social satisfaction in comparison to virtual interaction (Sacco & Ismail, 2014). In a study focused on social belongingness, Sacco and Ismail (2014) found that participants who engaged in FtF communication indicated greater basic social needs satisfaction as well as a greater positive mood than those in the virtual setting. In addition, participants noted that FtF interactions did produce greater levels of anxiety, but this did not overpower the positive benefits of FtF communication. Factors such as the social belongingness of satisfaction may result in participants' preference of FtF communication due to its communication experiences.

In addition to studies focused on the comparisons between FtF and virtual interaction (Sacco & Ismail, 2014), there are also studies revealing the communication preferences pertaining to friendship and romantic interests. Schwarz (2008) found that participants tend to prefer communicating online when developing friendships as the participants indicated a greater positive impact when compared to communicating offline. For romantic relationships, participants preferred both online and in-person communication. In most cases, the frequency and quality of FtF communication have a significantly higher impact on relationship satisfaction than communicating virtually through phones pertaining to friendship. However, for people engaged in a romantic relationship, the frequency of online communication produces a greater impact on the level of relationship satisfaction. The comparison between the communication formats of different relationships indicates their preferences before the COVID-19 pandemic. The evidence found that FtF communication is more efficient and influential on individuals than CMC. These findings help predict the potential communication preferences of US teenagers during the COVID-19 period.

With the examination of the advantages of both asynchronous and FtF communication, Zwaanswijk & van Dulmen indicate their participants, including teenagers, favor FtF communication for group discussion (2014). A comment made by a 49 years old respondent stated that FtF communication allows for better understanding and clarification during discussion. This study strengthens the argument that the nature of FtF communication allows for more productive exchanges. However, Zwaanswijk & van Dulmen's study did not examine people's preferences from a varied multitude.

Overall Trend of Communication Preferences

To better understand the overall trend on the communication preferences of teenagers, Common Sense Media conducted a study called "Social Media, Social Life: How Teens View Their Digital Lives" in 2012 and

2018. Both versions of the study provided comprehensive results through surveying over 1000 teenagers on their communication preferences, especially with the increasing influence of social media and other forms of CMC, and an analysis was done on the similarities and differences in the results of both papers.

In 2012, most teenagers were avid users of social media, but most teenagers' (49%) most preferred mode of communication remains to be in person. Texting, which is a type of asynchronous CMC, was 33% of teenager's favorite mode of communication. Then, only 7% of teenagers preferred to communicate with social networking, which is also a form of asynchronous communication. The only form of synchronous CMC discussed in this study, talking on the phone, was only 4% of the teenager's favorite mode of communication. The main reasons why most teenagers prefer to communicate FtF are because it is more fun and they can better understand what people really mean in person with the presence of nonverbal communication. Conversely, the main reasons why others prefer texting is because it is more quick, easy, private, and gives them more time to think about how to respond. Social media and CMC could even affect how teens interact with each other because one fourth of social media users say they've said something online that they wouldn't have said in person.

What was interesting is that some teens actually thought using social media takes away from the time that they could be spending FtF with others. Some teens also agree that social media also acts as a distraction when they are together with others in person. All in all, in 2012, most teenagers preferred to communicate in person and some even thought CMC could be negative to communication and interaction.

However, in 2018, the proportion of teenagers that preferred to communicate FtF has dropped significantly (from 49% to 32%), and more participants preferred to communicate through texting. Along with the shift of the preferred method of communication, the preference of communicating through social media has increased from 7 percent to 16 percent, and the preference of communicating through video-chatting has also increased from 4 percent to 10 percent. Even a higher percent of teenagers (54%) agreed that using social media distracts them from interacting with others that they are with. Similarly, a higher percent of teenagers agreed that the time they spend using social media has taken away time that they could have been spending with others in person.

Despite these results, there has still been a significant increase in the frequency and introduction of social media use in 2018 compared to 2012, in teenagers. This could be due to the increase in access to mobile devices, consistent internet, and user satisfaction improvements through app updates. Teens are more likely to say that social media has had a positive effect than negative on how they feel, despite the increase in social media use. Overall, in 2018, with an increase in accessibility to technology, social media has been more widely used by teenagers, more preferred by teenagers when compared to other forms of communication, and viewed as having a positive impact on their lives, which are contrasting results from the ones found in 2012.

Communication Mediums, Productivity, and Process Satisfaction

Despite preferences, there are many indirect benefits that may stem from the different types of communication mediums that one uses, one of the most important being productivity. Although this research is focused on adolescents who may not have entered the workforce yet, exploring prior research done on productivity in relation to using different communication mediums may offer important insight as to the reasonings and significance of the results found in this study.

The first study done by Andres concluded that greater team collective behaviors will lead to more information exchange, and more information and activation are associated positively with increased productivity and process satisfaction. Therefore, this indicates that in order to find the communication medium that will yield the highest productivity and process satisfaction, researchers will also need to find the medium that allows for the highest information exchange or team collective behaviors (Andres, 2006). In fact, Haythornthwaite & Wellman discovered that for the 6 kinds of information exchange - receiving work, giving work, collaborative writing, computer programming, sociability, and major emotional support - electronic mail and FtF encounters/meetings were the predominant mediums for communication. Although FtF communication, especially ones that are unscheduled, was the most common form of communication for exchanging information, there was not a statistically significant difference between FtF communication and email, which is considered to be a form of CMC. Even though there was no significant difference for the most common form of

communication for information exchange, individuals preferred different communication mediums given different contexts, such as depending on others that they are communicating with or the direct purposes that need to be addressed. For example, for groups that do not have strong ties with each other initially, FtF communication is preferred, whereas groups that have stronger ties prefer a supplementation of E-mail (CMC) with FtF communication. Another example is how the more individuals communicate with each other, the more information they exchange, and the more media they use to communicate (Haythornthwaite & Wellman, 1998). What all of these conclusions meant was that not one single communication medium is more productive than another; in fact, everything depends on contexts such as how well one knows about another or the nature of the task, and sometimes, a combination of mediums could be used.

As such, the following research question is posited:

RQ: During the COVID-19 pandemic, how do U.S. teenagers prefer to communicate?

II. METHODS & METHODOLOGY

Sample

The survey questions were answered by 38 participants in the United States aged between 13-19 who had access to technology and reliable interest on a daily basis. The study employs a snowball sampling method to evaluate the communication preferences of teenagers in the US. Twenty-two of the participants identified as female, followed by male (n = 14; 36.84%), gender variants (n = 1; 2.63%) and non-disclosed (n = 1; 2.63%). Thirty-two (84.21%) participants reported themselves from California, (n = 6; 15.79%) participants were from other states (2 from Texas, 2 from Virginia, and 2 from New York). Twenty-three (60.53%) participants from the study identified themselves as Asians, followed by Latinos/Hispanics (n = 3; 7.89%), white/causation (n = 8; 21.05%), multiracial and biracial (n = 3; 7.89%), and others (n = 1; 2.63%). Sixteen (43.11%) participants identified as 18 years old, followed by 17 years old (n = 10; 26.32%), 16 years old (n = 7; 18.42%), 15 years old (n = 2; 5.26%), 14 years old (n = 1; 2.63%), 13 years old (n = 1; 2.63%), 19 years old (n = 1; 2.63%). All participants (n = 38; 100%) reported that they have access to reliable Internet and technology.

Procedure

The survey was conducted via Qualtrics and data were analyzed by RStudio. All data was kept anonymous.

Questionnaire

Likert Scale. The survey was adapted and revised based on a previous study (Eser et al, 2011). Using a Likert scale with eleven questions per set, participants were asked to rate the difficulty of the communication formats under varied circumstances (1=very difficult; 7=very easy). The set of conditions are rated separately by participants for FtF communication, virtual asynchronous communication, and virtual synchronous communication (e.g. "ease of expression feelings"). The researchers evaluated the communication preferences of the participants from different perspectives, which include relationship development, communication comfort, and the effectiveness of communication (Vagias, 2006).

Virtual versus Face to Face Communication Questionnaire. With the adoption of the survey from Eser et al, the participants were asked to choose either virtual or FtF communication to better fit the statement (2011). With the data collected with a 7-point Likert scale, the researchers are able to compare participants' preferences of communication in relation to the different situations. The participants were asked to rate the positive communication statement (1= always through CMC communication; 7= always through FtF communication). For example, if most participants choose "always through face to face communication" for the statement, "ease of expressing feelings," it indicates US teenagers prefer to communicate in-person under the scenario to express their feelings (Vagias, 2006).

III. RESULTS & ANALYSIS

P Value Between CMC and FtF Communication

Statement	P Value: < 0.05?
Ease of expressing feelings	Yes
Ease to communicate	Yes
Feeling closer to friends and/or team members	Yes
Quicken development of relationship	Yes
Allowing better social interaction	Yes
Ease of access to people	No
Ease of access to knowledge	No
Allowing to clarify ambiguous issues	Yes
Useful tool for working, developing networks, and interacting with friends	Yes
Allowing to convey emotions exactly and correctly	Yes
Allowing to feel the emotions of others	Yes

Notes. If *p* value is less than 0.05, then significant difference exists; if *p* value is greater than 0.05, then there is no significant difference

TABLE 1. The table reflects whether the *p* value exists under varied circumstances after inputting the statistics in RStudio by comparing FtF communication and CMC, both synchronous and asynchronous.

Virtual Communication, Synchronous and Asynchronous, and FtF Communication Difficulty Under Varied Circumstances

Statement	Synchronous CMC	Asynchronous CMC	FtF Communication
Ease of expressing feelings	3.711	3.553	5.684
Ease to communicate	4.711	4.868	6.105
Feeling closer to friends and/or team members	3.5	4.158	6.474
Quicken development of relationship	3.421	4.026	6.395
Allowing better social interaction	3.158	4.158	6.421
Allowing to clarify ambiguous issues	4.211	3.816	5.658
Useful tool for working, developing networks, and interacting with friends	5.053	5.132	5.763
Allowing to convey emotions exactly and correctly	3.316	3.474	5.974
Allowing to feel the emotions of others	3.184	3.395	6.184

Notes. Those statements were measured with a 7-point scales, ranging from "very easy" to "very difficult". When the *p* value is less than 0.05, significant difference exists, and the means can be compared.

TABLE 2. The table reflects the mean value of varied circumstances of the different communication format, if its *p* value exists.

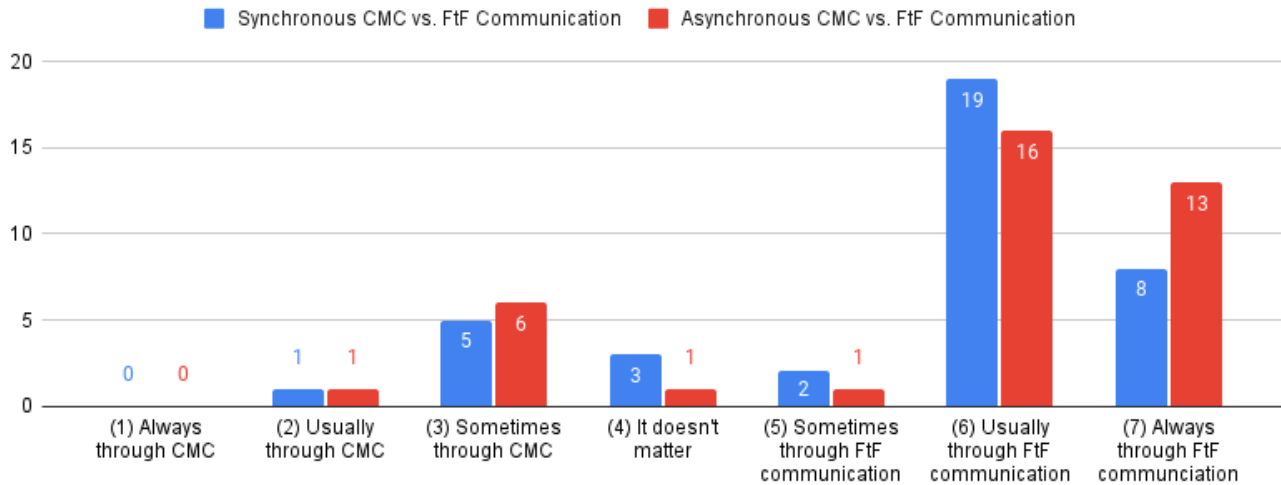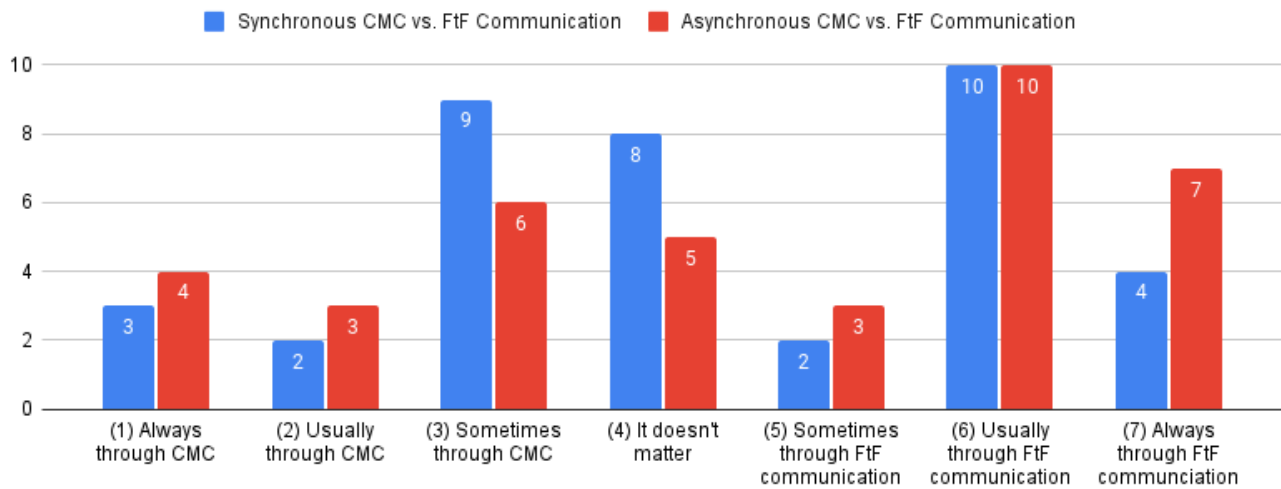## Virtual vs. FtF Communication Matrix Scales: Ease of Expressing Feelings

FIG. 2. The figure demonstrates the favor of US teeangers within the comparison of virtual, both asynchronous and synchronous, vs. FtF communication pertaining to the statement "ease of expressing feelings."

Virtual vs. FtF Communication Matrix Scales: Ease of Access to People

FIG. 3. The figure demonstrates the favor of US teeangers within the comparison of virtual, both asynchronous and synchronous, vs. FtF communication pertaining to the statement "ease of access to people."

The purpose of this particular research is to examine the communication preferences of teenagers in the US during the COVID-19 pandemic. With the data collected from 38 participants after clearing out the incomplete responses, the result of synchronous CMC, asynchronous CMC, and FtF communication were compared using one-way analysis of variance (ANOVA) through the programming application RStudio.

Communication Comfort and Relationship Development. Using ANOVA revealed the teenage communication preferences towards asynchronous CMC, synchronous CMC, or FtF communication under varied circumstances. Through the evaluation of each individual statement from the distributed survey, different communication methods were compared from different perspectives, such as "ease to expressing feelings", "ease to communicate", etc. After inputting data in RStudio using ANOVA, most statements indicate a significant difference, in which the *p* values are lower than 0.05: communication comfort and relationship development (table 1). In the case of "ease of expressing feelings", $[F_{(2,125)}=22.76, p=3.71e-09]$ was calculated as a result. Then, the mean value of the three communication formats were compared to find out the more preferred communication of the participants. Using the same statement, see table 2 for the statistical results, has a greater

value for FtF communication than CMC, both synchronous and asynchronous. Those findings were consistent with the previous study (Eser et al, 2011) and demonstrate a significant difference that FtF communication is the more preferred format pertaining to communication comfort and relationship development.

      Effectiveness of Communication. The following statements, with a p value greater than 0.05, do not have a significant difference: "ease of access to people" and "ease of access to knowledge". In the case of "ease of access to people", the p value [$p=0.122$] was calculated; for "ease of access to knowledge", ANOVA revealed the statistics [$p=0.267$] that indicates no significant difference among FtF communication and CMC, both asynchronous and synchronous. Based on these results, the researchers were unable to draw a clear conclusion of the communication preference of their participants over these two statements. In other words, US teenagers do not have a preferred communication method for purposes related to the effectiveness of communication, which is inconsistent with the previous study (Eser et al, 2011).

IV. DISCUSSION & CONCLUSION

      As everyones' communication mediums, especially teenagers, shift to online formats during the COVID-19 pandemic, it led to this research exploring whether the impacts of the COVID-19 pandemic could be a factor that changed the communication preferences of teenagers. By adopting a slightly revised questionnaire from previous literature on communication preferences, the researchers were able to create a more precise and convenient survey that asked participants to rate the difficulties of achieving certain positive statements when communicating with a certain medium. With an online survey of 38 participants from the United States, ages 13-19, the researchers found that overall, participants found almost all positive communication statements "very easily" achieved through FtF communication, and mostly "neutral" when communicating either CMC, both asynchronous and synchronous. What this means is that for most purposes of communication, participants preferred to communicate through FtF communication. However, in two statements - "ease of access to people" and "ease of access to knowledge" - there was not a significant difference in the scale number that the participants chose: in all asynchronous CMC, synchronous CMC, and FtF communication, participants chose a mean of around 5-6, which resembles "slightly easy" to "easy." What this means is that participants did not have a strong opinion on the preference of FtF communication or CMC, both asynchronous and synchronous, when it came to the ease of access to people or knowledge, but both forms of communication are still somewhat preferred for this purpose.

      Previous research done prior to COVID-19 suggested CMC being the most preferred medium of communication amongst teenagers. However, the results in this research clearly indicated that during the COVID-19 pandemic, FtF communication was the most preferred medium of communication for almost all social purposes. The findings are also consistent with the MRT, proposed by Daft and Lengel, which states that rich information changes a recipient's understanding more quickly than lean information, as participants choose to prefer FtF communication, which is considered richer, than CMC, which is considered leaner (Lancaster et al, 2007), when asked about statements that require "quick understanding" in communication, such as "allowing to clarify ambiguous issues." The researchers have also explored, at the beginning of this particular research, how uncertainty reduction strategies are perceived socially as communication preferences and stages of a relationship change (Fox & Anderegg, 2014). Fox and Anderegg found that uncertainty reduction through CMC and FtF differ in factors such as the absence of nonverbal cues in CMC and the availability in more passive ways of uncertainty reduction in CMC, such as reading a partner's profile (2014). As discovered by this research, in the statement "quickening development of relationship," almost all participants leaned towards FtF as the most preferred medium of communication, meaning that the difference in uncertainty reduction processes may not result in a difference in communication preferences. The results of the study is also consistent with a 2012 study done by Common Sense Media, which found that teenagers preferred FtF communication over CMC, but inconsistent with the 2018 follow-up study, where asynchronous CMC communication became teenagers favorite form of communication (2018). The researchers in this study pointed to the increase in teenagers that have access to and used social media from 2012-2018 as a reason for the different research results. Therefore, this could mean that when teens have access to both social media and FtF communication, they would prefer CMC for its convenience and privacy; but when CMC is the only available form of communication, teens will once again prefer FtF communication for its irreplaceable benefits such as body language.

      Overall, participants found almost all positive communication statements "very easily" achieved through FtF communication, and mostly "neutral" when communicating through CMC, both asynchronous and

synchronous. What this means is that for most purposes of communication, participants preferred to communicate FtF. However, in two statements - "ease of access to people" and "ease of access to knowledge" - there was not a significant difference in the scale number that the participants chose: in asynchronous CMC, synchronous CMC, and FtF communication, participants chose "slightly easy" to "easy." What this means is that participants did not have a strong opinion on the preference of FtF communication or CMC, both asynchronous and synchronous, when it came to the ease of access to people or knowledge, but both forms of communication are still somewhat preferred for this purpose. The two conditions where participants did not have a strong preference in communication mediums for may indicate that for certain purposes, either socially or for work, communication preferences may not be so clear cut: participants may prefer to use one medium over another for specific reasons or use a combination of different mediums.

Although the research question and methodology have been carefully thought through, along with other experts in the field, to be specific, inclusive, replicable, accessible, and consistent, there are some factors that may have skewed the results. One factor being the demographics of the participants are very limited: almost all of the participants are from California, Asian, and only encompass the older teenagers (17-18). Having this limited demographic alone neglects other socioeconomic, cultural, and age groups that are present throughout the nation. According to a recent U.S. News analysis, California is the 5th richest state in the United States, with a median household income of more than 80000 dollars (2021). In addition, according to the US Census Bureau, Asians stand as the race with the highest median household income (2018); in fact, significantly higher than any other race. Furthermore, according to a study done by Sen and Tucker, poor and non-white children still have lower access to the internet (2020). Therefore, this means that the majority of participants in this research were not from low socioeconomic backgrounds where they or their communities may have to take into account internet accessibility when choosing a preference for communicating. In future research, the results could be optimized if the researchers took into account the different contexts of different participants, which could eliminate uncontrolled variables that may skew the results.

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AUTHOR CONTRIBUTION STATEMENT

J.M., Y.C., and Y.Z. distributed the surveys. J.M., Y.C., and Y.Z. worked on and edited the literature review. J.M., Y.C., and Y.Z. organized the references. J.M., Y.C., and Y.Z. worked on and edited the methodology section. Y.C. analyzed the data. J.M., Y.C., and Y.Z. worked on and edited the analysis section. Y.Z. worked on and edited the discussion section, J.M., Y.C., and Y.Z. reviewed the manuscript.