Cats, Kids, and Video Calls:
How Working From Home Affects Self-Presentation

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ABSTRACT

Working from home (WFH) in response to COVID has reduced boundaries between home and work roles. It has also reduced in-person interaction, replacing it with digital communication including Video and text. We use personality theory to compare self-presentation on these media versus in-person communication. We use surveys and interviews to examine media self-presentation before and during COVID, as well as between different groups of students and office workers. Pre-COVID students presented themselves as more Extraverted, more Agreeable, less Open, and less Neurotic on Video. On Texting they are less Open and Neurotic. During WFH, students are more Agreeable and less Neurotic on Video while still less Neurotic on Texting. The office worker WFH sample is more Agreeable and less Neurotic on Video. We discuss practical and theoretical implications of results, and future research directions.

CCS CONCEPTS

•Human-centered computing~Human computer interaction (HCI)~HCI theory, concepts and models

•Human-centered computing~Collaborative and social computing~Collaborative and social computing theory, concepts and paradigms~Social media

KEYWORDS

Personality, self-presentation, Video, Texting, media theory, affordances, COVID, students, office workers

1 Introduction

The COVID pandemic and social distancing have induced some of the most radical changes in work practices in living memory. Although digital technologies have steadily increased virtual versus in-person work over the last 30 years [1,2,18–20,23,27], these long-term changes are slow compared with recent shifts. Pre-COVID, collaborative work often combined digital communications with a variety of in-person interactions including formal meetings, water-cooler conversations and impromptu conversations with team-members [12,20,23,24,27]. During COVID, people are attempting to replace these different types of in-person communication with combinations of videoconferencing (Zoom, Hangouts, Skype), collaborative tools (GDrive, OneDrive, MS Teams, Dropbox, Trello), text-based communication tools (Slack, Discord), more traditional methods of digital communication (emails and Texting), as well as social media (Facebook, Linkedin, Instagram). Prior research reveals important differences between in-person versus remote collaboration, including frequency of impromptu conversation, project speed, and outcome [17,19,20,23,27]. Other research has compared in-person interactions with digital communication using videoconferencing [6,14,29,30,39], email [18,41], messaging [11,24], and online communities [17,19,42], showing important differences. Another crucial aspect of digital communication concerns social presence [16,26] which is reduced by textual communication and only partially supported by video [26]. This wealth of prior work is also supported by our intuitive experiences, and many recent popular media articles about working from home (WFH) during COVID discuss potential differences between in-person versus digital communications

[3,33,38]. The current paper focuses on self-presentation in digital versus in-person communication, examining differences between in-person, video-mediated, and textual communication, both before and during COVID. It is well known that media differ in their technical affordances [4,7,34,35,37]. We examine whether people exploit such affordances to present themselves differently in-person compared with using Video or Texting, and how this is affected by their jobs and WFH.

Following prior work [34,35], we assess self-presentation differences across media using a mixed-method combination of standardized personality surveys and qualitative probes. Personality is a useful psychological construct allowing us to interpret other's behaviors and understand how we present ourselves. Most personality theorists, as well HCI researchers, use the "Big 5" OCEAN trait factor taxonomy [15,31]. OCEAN consists of 5 dimensions: Openness to Experience, contrasts wide vs narrow scope of interests; Conscientiousness: organization/punctuality vs messiness/lateness; Extraversion: positive attitude towards social interaction vs. preference for solitude; Agreeableness: altruistic/friendly vs selfish/cold behavior; Neuroticism or Negative Emotionality; anxiety/emotional volatility vs emotional stability. People are able to subconsciously infer traits from observable behaviors [13,25], personal artifacts, and physical spaces [9,10]. Trait theories of personality generally assume stability of self, which contrasts with situationist theories that assume stronger influence from social or environmental contexts [8]. The current studies explore how people present themselves when texting or using video programs such as Skype, Facetime, and Zoom. We compare self-presentation before and after COVID, as well as comparing vocational differences between office workers versus students.

Prior work leads us to expect that self-presentation will differ across these media, and furthermore that these differences will be influenced by media affordances [34,35]. That work compared self-presentation on pictorial, ephemeral media such as Snapchat versus more traditional social media, such as Facebook. Results showed reliable differences in self-presentation between different social media which also differed from offline. For example, on Facebook people were less Neurotic and Open compared to offline, whereas on Snapchat they are more Extraverted and Open [34]. More specifically, these self-presentation differences seem to be driven by Audience effects [4]; people using Instagram often create an alternate account (called a Finsta) for a smaller, trusted audience differing from their main account. On their Finsta account, they are more likely to present themselves authentically, showing increased Neuroticism and lowered Agreeableness, compared with more curated self-presentation on their main accounts which show greater Extraversion and lower Neuroticism [35].

We explore differences in self-presentation as COVID and WFH are radically reconfiguring our use of media. COVID has reduced in-person interactions, reallocating many communications online. We also examine the effects of profession, comparing students with office workers. For students, instruction has moved online, exposing them to new uses of Video and textual communication. Students now experience Video and Texting in large impersonal groups while WFH, which contrasts with the small intimate online audiences they videoed with pre-COVID. In addition, students' social distancing has shifted offline communications to intimate Audiences. In contrast, office workers have greater pre-COVID experience using Video and textual communication in more formal settings involving work colleagues. However, the shift to WFH means that they may now experience those media differently, as Video is being used for informal chats and catch-ups and not just work-related tasks. Furthermore this WFH shift potentially promotes context collapse [22] as dogs, children, and partners may inadvertently interrupt work-related video calls. Such interruptions potentially undermine efforts to project a professional persona that maintains a clear separation between work and home life. In addition, being able to see oneself in self-depicting Video may affect self-presentation, as prior psychological theory suggests that seeing self-images in mirrors leads people to modify their self-presentation, presenting more socially desirable behaviors [5,28]. We also explored texting, as this has been observed to support informal communication, and in some cases to substitute for casual conversations [11,21,24,36]. Furthermore, Texting plays an important role in facilitating other forms of communication,

often being used to schedule video calls or as a backchannel for private messaging or link posting in large video calls [21,24,36]

Given potential changes in usage of textual and Video media following COVID, these preliminary studies address the following research questions.

1. Is self-presentation different for Texting and Video versus offline interactions?
2. Are these media self-presentations affected by COVID? When WFH do people now present themselves differently compared with pre-pandemic self-presentations?
3. Are there differences between office workers and students in their media self-presentation during COVID?
4. How can we explain these observed differences?

To investigate these questions, we compare student and office workers' survey assessments of their offline personality with their assessments when texting and when using Video. We then use these comparisons to drive interviews or long-form questions with participants, exploring observed differences to offer potential explanations. These are important questions to address; if self-presentation differs systematically between media, this has practical implications for how and when we use those media.

1.1 Related Work

Here we review affordance theory to explore self-presentation and how media influence communication.

1.1.1 Affordances.

Affordances can be used to understand behaviors on different social or communicative media [4,7,37]. Broadly, affordances describe how people perceive a medium's features in terms of how people interact with them. Affordances are useful ways to look at social/communicative media, since they describe what users perceive to be possible, rather than capturing objective technical features that might change over time.

Communicative media each have distinct affordances that influence users' interactions with the medium. DeVito et al. [4] present a taxonomy of affordances for different social media, which is general enough to apply to other types of communicative media. They identify three broad categories of affordances related to the Self, Other Actors, and Audience. The Self includes subcategories of presentation flexibility, content persistence, and identity persistence. These subcategories relate to the ability to present the self differently, how long content is accessible and editable, and the stability of self-presentations. Other Actors, or how other users can interact with the self, includes content association and feedback directness. These aspects relate to how others can link content to us, and how direct that feedback is. Finally, Audience is viewed through transparency and visibility control, or how easy it is to understand who sees content as well as control over who sees which content. Although [4] doesn't specifically discuss non-social media (such as Texting), Fox and McEwan [7] examine video calls as well as in-person communication using an affordance perspective. The current paper applies DeVito's affordances communication medium framework to Texting and Video calls.

Overall, prior research discusses important differences in media self-presentations and how these might be expressed through trait and situationist views of personality [4,34,35]. We extend that discussion by directly comparing self-presentation across media, across time periods, and across types of work.

We conduct three studies, one with a sample of pre-COVID students, and two others from people doing WFH, examining differences in how people view self-presentation through communication media in different work/study contexts. We hypothesize the following differences. Pre-COVID we anticipate that students will be more Extravert, Agreeable and less Neurotic over Video compared with offline as they are communicating with intimates. WFH means that students will have new video experiences that include larger groups of

people (lectures through Zoom) leading to context collapse [22], reducing trait differences between Video and offline. We also predict that office workers will look more idealized on certain traits as they need to present an idealized "work" self. On Video, office workers will therefore be significantly higher on Conscientiousness, Extraversion, Agreeableness, and lower on Neuroticism. In other words, office workers will be trying to present themselves as more organized, outgoing, and friendly, while also trying to convey emotional stability. We anticipate that Texting will become more Agreeable and less Neurotic for both office workers and WFH students, as they extend texting to embrace informal interactions while using affordances to indicate emotional stability. To investigate these hypotheses, we will first explain the methodology and results for study 1 in detail, then discuss studies 2 and 3, which are currently in progress.

2 Study 1: Pre-COVID students' self-presentation on Video, text, and offline.

2.1 Participants

Our first study was conducted pre-COVID during 2018. Student participants participating for class credit were recruited from a large US University. There were 73 participants (53 women, 19 men, 1 preferred not to state), aged 18-25, (M = 19.89, SD = 1.77), 32% Caucasian, 28% Asian/Asian American, 24% Hispanic/Latino, 9.5% Mixed Race/Ethnicity, 5.4% Black/African American.

2.2 Survey and Interviews

We administered the 44 item Big Five Inventory (BFI) [15] three times. The BFI is a standard personality survey that has been deployed widely. In-person media interviews between each survey probed self-presentation on Video or while texting. Participants first rated their regular Offline personality using the standard BFI. The second and third times they completed the survey, we made a minor modification. Participants rated their personality on a given medium: e.g. "*Over texting,* I am someone who is emotionally stable, not easily upset" (assesses Neuroticism trait) or "*On video chat,* I am someone who makes plans and follows through with them" (assesses Conscientiousness trait) respectively. This procedure has been used successfully in prior studies [34,35] where participants had no issues interpreting modified questions. Before responding to each personality questionnaire, participants first discussed their behavior over Texting or Video chat respectively, in an in-person interview. The interview explored who they communicated with, as well as when, why, and how they used each medium.

2.3 Results

We first analyzed the surveys using 3 Media (Offline, Text, Video) MANOVA with the 5 OCEAN personality traits as dependent variables. There was a main effect of Media: $F_{(10, 63)} = 11.63$, p<.001, partial $\eta^2 = .65$. To analyze each trait directly, we conducted 5 univariate ANOVAs: each had 3 levels for media (Offline, Text, Video) where media is a within-subjects variable and the dependent variable was the OCEAN trait. Main trait effects are shown in Table 1.

Table 1: ANOVA Results on OCEAN Traits

Trait	df	F	η^2	p
Openness	**2,71**	**9.64**	**.12**	**<.01**
Conscientiousness	2,71	.49	.01	>.05
Extraversion	**2,71**	**29.1**	**.29**	**<.001**

Trait	df	F	η_2	p
Agreeableness	**2,71**	**6.51**	**.08**	**<.05**
Neuroticism	**2,71**	**92.06**	**.56**	**<.001**

Confirming prior work [34,35], people display a different pattern of traits across different media. To probe specific differences between Texting, Video, and Offline traits, we conducted Bonferroni corrected posthoc comparisons for each trait that was significant in the ANOVA (See Table 2).

Table 2: Pairwise Comparisons for Openness, Extraversion, Agreeableness and Neuroticism for Offline, Text, and Video personality traits.

Media	M1	M2	LL(95%)	UL (95%)	d
Openness					
Offline - Texting	**3.73**	**3.54 *****	**.102**	**.353**	**0.52**
Offline - Video	**3.73**	**3.59 ****	**.029**	**.248**	**0.36**
Texting - Video	3.54	3.59	-.205	-.027	-0.22
Extraversion					
Offline - Texting	3.46	3.56	-.310	.122	-0.13
Offline - Video	**3.46**	**3.90 *****	**-.638**	**-.239**	**-0.63**
Texting - Video	**3.56**	**3.90 ****	**-.568**	**-.120**	**-0.44**
Agreeableness					
Offline - Texting	3.71	3.66	-.067	.164	0.12
Offline - Video	**3.71**	**3.82 ***	**-.206**	**-.004**	**-0.30**
Texting - Video	**3.66**	**3.82 ****	**-.260**	**-.048**	**-0.42**
Neuroticism					
Offline - Texting	**3.29**	**2.78 *****	**.346**	**.664**	**0.91**
Offline - Video	**3.29**	**2.65 *****	**.478**	**.806**	**1.12**
Texting - Video	**2.78**	**2.65 ***	**.004**	**.270**	**0.30**

Note. *** p < .001, ** p < .01, * p < .05 df = 72. Upper Limit (UL), Lower limit (LL) model mean differences with Bonferroni adjustment for multiple comparisons. Rightmost column d shows effect sizes.

When comparing Video with Offline, people perceived themselves to be more Extraverted and Agreeable, but less Neurotic and Open. Comparing Video with Texting, people see themselves as more Extravert and Agreeable but less Neurotic. Finally, when comparing Texting with Offline they see themselves as less Open and less Neurotic. There were no differences in Conscientiousness. We now turn to the interview analysis which offers potential explanations for these results.

2.3.1 Interview Analysis

We analyzed 64 interviews. We applied the platform affordance analytic framework [4] to explore media differences. Four analysts familiar with the hypotheses identified a set of themes using bottom-up coding and defined a codebook, but given space limitations, we will not review this process. We instead summarize the themes and their relations to the personality differences identified in the quantitative analysis.

2.3.1.1   Video

Two major analytic themes were Co-presence with their Audience and Control. Participants stressed that Video increased perceived Co-presence with their Audience, strengthening social bonds compared with Texting and Offline. They noted that their primary Audience for Video was close friends and family. This increased bonding may explain greater Extraversion and Agreeableness on Video than Offline and Texting. One participant states:

"it's just being able to like talk to them or to see their face or to see their facial expression because we are so close...it also makes me happier, or brings more joy. [...] So just maintaining that communication in that liveliness and conversation, like the flow is...I think it's important for maintaining those relationships." (P10).

To our surprise, participants also felt that they had greater control over their self-presentation on Video compared with Offline and Texting. We had expected them to be more Neurotic over Video, with the self-depicting video window increasing self-consciousness. Instead, participants reported that this increased awareness allowed them to better monitor and hence control their self-presentation. Increased awareness meant they could strategically modify aspects of their self-presentation such as the physical backdrop for the call, or their personal appearance. One participant even manipulated their video self-presentation to conceal appearance information from their parents, reducing the likelihood of emotional or conflictual conversations:

"My parents didn't know I had blonde hair for a long time. So I would also have tie my hair back and like, sometimes wear a hat, but that'd look kind of suss [suspicious]. So I'll try not to move my head left or right, so I'll tie my hair back when I know I'm going to see them. And they don't like when I wear makeup, so I wouldn't wear makeup when Facetiming them." (P7).

2.3.1.2   Texting

There were fewer differences between Texting and Offline, but the themes of Control and Co-presence were again salient. Participants felt that the editable asynchronous nature of Texting meant they were better able to control exactly what they said and how they said it. One participant stated that Texting allowed them to condense the information they needed to convey and be more direct. This may explain why Texting is less Open than Offline:

"Yeah, I would be more inclined to tell more information in person than through text. Text messaging, I feel like I keep things more condensed and straight to the point as opposed to in person conversation." (P2)

And while Texting could be direct, people also were able to use its affordances to disguise how they actually felt. This again seemed to promote reduced Neuroticism compared with Offline. For example, one participant notes how they hide their true feelings when texting because they know the feelings were not appropriate:

"Sometimes, also like if I'm upset with someone and I know that it's kind of a petty reason or if there's really no reason for me to be upset but I am, I'll hide it because I know it's not really a good enough reason for me to be upset in the first place." (P10)

2.4 Discussion

In this pre-COVID study, students report significant differences in self-presentation across media. Compared with Offline, over Video, they are more Extravert, Agreeable, and less Neurotic and Open, and when Texting, they are less Neurotic and Open. These differences seem to arise from the Audience and Control aspects of these media. These results confirm prior work on self-presentation and media, showing that people are generally more Extraverted, but less Neurotic when using digital media compared with Offline [34,35]. Interestingly confirming psychological theory [5,28], the self-depicting Video may help them present a more socially acceptable self.

However, this data was collected in 2018, before the pandemic reconfigured communication. In particular, for students, instruction has moved online, changing the nature of their video and texting interactions. This age group now experience Video and Texting in large, impersonal groups, in addition to the small intimate audiences documented in this first study. In contrast, offline communications have shifted to being predominantly with intimate, familiar Audiences following social distancing.

We, therefore, conducted a natural experiment to investigate how changes in media use following COVID have affected people's self-presentation. The next two in-progress studies were conducted in 2020 during social distancing. Data collection was done remotely, but the experimental procedure was identical otherwise.

3 Study 2: WFH Students' Media Self-Presentation

3.1 Participants

Participants were again drawn from a large US University. They completed the study online and received a chance to win a game code or $10 Amazon gift card. The final sample was 18 participants (7 women, 10 men, 1 preferred not to state), aged 18-24, (M = 20.4, SD = 2), 38.9% Asian/Asian American, 27.8% White/Caucasian, 22.2% Mixed Race/Ethnicity, 11.1% Hispanic/Latinx.

3.2 Survey and Interviews

As in study 1, participants answered the personality survey three times, with open answer prompts interspersed between each survey to replicate the interview process. We switched to the BFI-2 [31] as the BFI had been updated. Participants rated their regular Offline personality in the first survey. For the second and third surveys, we made the same modification to the standard survey as in study 1. Interview questions were asked as open survey prompts that participants answered textually.

3.3 Results

We first analyzed the surveys using 3 Media (Offline, Text, Video) MANOVA with the 5 OCEAN personality traits as dependent variables. There was no main effect of Media: $F(10,8)= 1.77$, $p = .22$, partial $\eta^2 = .69$ which may be the result of the small number of participants, as we are still recruiting. To analyze each trait directly, we conducted five univariate ANOVAs: each had three levels for media (Offline, Text, Video) where media is a within-subjects variable, and the dependent variable was the OCEAN trait. Trait effects are shown in Table 3.

Table 3: ANOVA Results on OCEAN Traits for Study 2

Trait	df	F	η^2	p
Openness	2,16	0.23	.02	>.05
Conscientiousness	2,16	2.97	.15	>.05
Extraversion	2,16	1.23	.07	>.05
Agreeableness	**2,16**	**5.16**	**.23**	**<.05**
Neuroticism	**2,16**	**10.17**	**.37**	**<.001**

This table reveals significant differences in Agreeableness and Neuroticism. To probe specific differences between Texting, Video, and Offline traits, we conducted corrected posthoc comparisons for each significant trait in the ANOVA, i.e., Agreeableness and Neuroticism (See Table 4).

Table 4: Pairwise Comparisons for Agreeableness and Neuroticism for Offline, Text, and Video personality traits.

Media	M1	M2	LL(95%)	UL (95%)	d
Agreeableness					
Offline - Texting	3.71	3.81	-.34	.14	.26
Offline - Video	**3.71**	**3.98****	**-.47**	**-.07**	.85
Texting - Video	3.81	3.98	-.4	.07	.46
Neuroticism					
Offline - Texting	**3.12**	**2.84***	**.01**	**.55**	**.65**
Offline - Video	**3.12**	**2.57****	**.19**	**.91**	**.96**
Texting - Video	2.84	2.57	-.11	.21	.51

Note. *** p < .001, ** p < .01, * p < .05 df = 17. Upper Limit (UL), Lower limit (LL) model mean differences with Bonferroni adjustment for multiple comparisons. Rightmost column d shows effect sizes.

For Agreeableness, again, Video was significantly higher than Offline and Text. We see a similar Neuroticism effect, where Offline was significantly higher than Video, although this is a much smaller sample that could hide other potential trait differences. However, even with a small sample, we again see large effect sizes, especially for Neuroticism. We did not see the trait differences in Openness or Extraversion observed in the pre-COVID student sample. We now discuss how the interview analysis informs these results.

3.3.1 Open Answer Prompt responses

Analysis of the open answer responses is ongoing, but here are some preliminary results, presenting similar themes to study 1. As in study 1, concerns about Co-presence with an Audience, and Control were prevalent, but what was interesting was that the Extraversion and Openness differences have disappeared.

Participants mentioned that Video is replacing in-person for intimate conversations, indicating that they are now more experienced with the medium. One participant noted:

"I use it for school, meetings, and hangouts. Definitely used in lieu of face to face meetings. It is the new 'let's hang out!' This is the pinnacle of seeing people during quarantine"(P10)

As people become more familiar with the medium, audiences and experiences may blend together, increasing Openness towards Offline levels. Another participant notes that the context of large video classes may reduce how much they were able to speak:

"I actually felt like I had a little bit less of a chance to communicate in the call. I speak up a lot during class and felt like zoom hindered this a little." (P8)

With the addition of this new context, students are no longer exclusively talking with intimate groups of friends. Even someone who normally talks in class may find it more difficult to speak up on a zoom call, in this case reducing Extraversion towards offline scores.

Others talked about the increased use of Video for classes and meetings where the target audience is very different. They note that in these more formal contexts, social behavior over Video does not exactly replicate in-person communications.

"I think that video software is DEFINITELY a blessing and useful tool for class, meetings, and other things, but it also definitely let's people act different or present themselves in a way they wouldn't in person. I think it feigns removal of accountability when really it doesn't; we still know who it is etc. Being on work meetings on zoom (I've only done a handful) has made me realize I'm more comfortable with my co-workers on zoom than my own classmates. it all comes down to the environment created by the professor and the overall vibe of the participants." (P8)

This person notes that when control over a larger audience is maintained (or when talking with a smaller audience), the call is more conducive to comfort and co-presence, which could help explain higher Agreeableness and lower Neuroticism on video calls.

When texting, participants were clear that texts have particular uses for particular audiences. One participant states:

"[...] I'll use Texting as the first means of communication if I need something, just because it's easy and convenient. I always use it to keep in touch with friends, plan outings or activities, and sometimes schedule other video-based meetings. (P6)

Others note that Texting has taken on a more critical role since COVID. Quick communications are used to keep in touch, possibly reducing Neuroticism. As this participant states, the nature of Texting allows people to control, which makes it seem safer:

"I think it's a 'safer' (less intimidating) way to get to know people, and I tend to use it as a way to get closer to someone before deciding if I really want to be friends." (P10).

We saw differences between students recruited pre- and during COVID, including the disappearance of media differences for Extraversion or Openness for WFH students. This led us naturally to study 3, which compares WFH students to WFH office workers, who use media in somewhat different ways from students. Unlike students, office workers have extensive prior pre-COVID experience using Video and Texting in formal, work-related situations such as remote meetings, but are now seeing these media being increasingly used for casual work conversations during COVID. Study 3 examined whether these factors led WFH office workers to present themselves differently from students.

4 Study 3 WFH Office Workers' Media Self-Presentation

4.1 Participants

We recruited 50 Mechanical Turk workers currently employed full time and residing in the United States. They received $7.50 for compensation. The final sample included 22 women, 27 men, 1 Non-Gender Binary, aged 23-59, (M = 37, SD = 9.04), 72% were Caucasian, 16% Black/African American, 4% Asian/Asian American, 4% Hispanic/Latino, 4% Mixed Race/Ethnicity.

4.2 Survey and Interviews

As in study 2, participants completed the 60 item BFI-2 [31] three times, with open questions about media use interspersed between each survey.

4.3 Results

We first analyzed the surveys using 3 Media (Offline, Text, Video) MANOVA with the 5 OCEAN personality traits as dependent variables. There was a main effect of Media: $F(10,40) = 3.04$, $p < .01$, partial $\eta^2 = .43$. To analyze each trait directly, we conducted five univariate ANOVAs: each had three levels for media (Offline, Text, Video) where media is a within-subjects variable, and the dependent variable was the OCEAN trait. Main trait effects are shown in Table 5.

Table 5: ANOVA Results on OCEAN Traits for Study 3

Trait	df	F	η^2	p
Openness	2,48	1.53	.03	>.05
Conscientiousness	2,48	1.41	.03	>.05
Extraversion	2,48	2.26	.04	>.05
Agreeableness	**2,48**	**8.49**	**.15**	**<.01**
Neuroticism	**2,48**	**3.32**	**.06**	**=.051**

Note: Greenhouse-Geisser correction used for violation of sphericity on Agreeableness and Neuroticism

The Table shows significant media differences on Agreeableness and (near significant) Neuroticism. To probe specific differences between Texting, Video, and Offline traits, we conducted corrected posthoc comparisons for each significant trait

Table 6: Pairwise Comparisons for Agreeableness and Neuroticism for Offline, Text, and Video personality traits.

Media	M1	M2	LL(95%)	UL (95%)	d
Agreeableness					
Offline - Texting	3.85	3.89	-.18	.1	.1
Offline - Video	**3.85**	**4.09****	**-.41**	**-.06**	**.49**
Texting - Video	**3.89**	**4.09****	**-.34**	**-.05**	**.49**
Neuroticism					

Media	M1	M2	LL(95%)	UL (95%)	d
Offline - Texting	2.17	2.05	-.01	.24	.35
Offline - Video	2.17	2.0	-.03	.36	.32
Texting - Video	2.05	2.0	-.11	.21	.23

Note. ** p < .01, * p < .05 df = 49. Upper Limit (UL), Lower limit (LL) model mean differences with Bonferroni adjustment for multiple comparisons. Rightmost column d shows effect sizes.

For Agreeableness, we see Video scoring significantly higher than Online and Texting. For Neuroticism, we see no significant differences (likely due to Bonferroni corrections).

4.3.1 Open Answer Prompt Response

Analysis of the prompt responses is ongoing, but we present preliminary analyses using similar themes to Studies 1 and 2. Overall we see strong similarities to WFH students.

For Video, we see familiar themes of Audience and Control. Confirming prior research, office workers felt that Video helped maintain interpersonal aspects of social and work relationships [14,16,40]. However, many participants noted the self-depicting video window could increase self-consciousness, leading them to be more intentionally performative in their efforts to socialize, which may increase Agreeableness:

> "I would say I'm slightly more positive and upbeat when I am on a video call. I feel like I have to be 'on' almost like when you are at work in a meeting that requires participation if that makes sense. I feel like I need to be presentable and seen and smart and funny. If we were in person I would just relax and not think about it, but something to do with the nature of a video call being right in someone's face, and seeing my own reflected back at me, makes me more self-conscious." (P2)

While these participants again talked about their ability to control self-presentation in Video, they were aware of the possibility of context collapse; being in one's home environment means that dogs, cats, and family members may all make unplanned video appearances. But even when the home context intrudes, participants noted that others generally responded well:

"I usually lock my door so that doesn't happen. And I mute my mic when I'm not talking. But on one video conference for work, my cat jumped up in my lap, got on the desk, put his face in the camera. I was slightly embarrassed, but my co-workers thought it was the cutest thing." (P21)

Others repeated this observation in the sample. Although people made strenuous efforts to prevent unwanted interruptions, colleagues were accepting when these inevitably occurred. This greater awareness of others' home lives may serve to personalize relationships that were more formal in the pre-COVID work context. Greater familiarity, in turn, may increase Agreeableness and reduce Neuroticism. People worry less about context collapse or lapses in control as they are aware that this could happen to anyone. Others simply felt more relaxed being in their own space.

"I might have a little bit of a different personality when on a video call because I am in my own comfortable home environment where I can feel more at ease when expressing myself and safer since I am home." (P37)

We see no overall statistical differences between Texting and Offline in this sample. It is also interesting to note that some people in this sample were more willing to say that there was no difference in their personality when texting. Texting was seen by some here as a simple communication medium that had no opportunities

for self-presentation. However, others noted that the Audience and Control are essential elements when texting. For example, P18 noted control as being important:

"Texting plays a big role because there are many times where I don't feel like being on the phone or video calling to communicate with others. I can get back to you when I want without feeling pressured to talk. The people I text are usually people I have a solid friendship/relationship with." (P18)

5 Discussion

This exploratory study compares digital self-presentation for different periods following a historical event. It also compares two different communication media with offline for different professions. Some results are consistent across professions and time; all respondents rated themselves as more Agreeable and less Neurotic on video calls, while other pre-COVID media differences seem to vanish during COVID, e.g., people presenting themselves as more Extraverted and Open on Video. We first compare pre-COVID and WFH student groups, then examine differences between WFH student and office workers.

Although we are still collecting data for the WFH groups, we begin by assessing COVID's effects on students, where some differences may arise from shifting Audiences and more varied media experiences. Pre-COVID, students mainly used video for informal chats with intimates, possibly promoting the lower Openness and higher Extraversion seen for video in study 1. During COVID, students have shifted many informal social interactions to video. They are also using it in formal contexts such as classes, where they may often be passive listeners in multi-person conversations, making them less oriented to self-expression or interpersonal influence. Pre-COVID students felt more Extraverted over Video, but these differences disappear during COVID, possibly because video is now used in more formal settings. Experience with media also seems to modify Openness, which was higher for offline pre-COVID, a difference which disappears with increased experience. It may be that as students use video in new ways, they realize that they can have Open conversations over media just as effectively as offline. Interestingly, however, although all WFH participants made references to context collapse, WFH students still feel able to control their self-presentations to appear more stable online than offline. They remain more Agreeable over Video than offline, perhaps as intimate chats have become common as offline replacements. Confirming psychological theory [5,28], the self-depicting video may increase self-awareness, causing people to present a more socially acceptable self who is more Agreeable and less Neurotic. Further work might explore this in more depth.

When comparing WFH students to office workers, we see more similarities than differences. Although office workers overall seem less concerned with appearing emotionally stable, this may be due to age-related differences in personality, as older people tend towards being more Conscientious and Agreeable, and less Neurotic and Extraverted than younger people [32]. Consistent with this, office worker Neuroticism is much lower than any student sample previously reported [34,35], pointing to an exciting avenue of further research. Office workers also noted that people were generally accommodating following a context collapse, such as when an upset child or unexpected cat intruded upon the professional setting Although we predicted that office workers would try and present an overall idealized self with high Openness, Conscientiousness, Extraversion, and Agreeableness but lower Neuroticism, only the last two were supported. Agreeableness and Neuroticism may also be influenced by interacting while safe and comfortable at home, with no commute and seeing co-workers in a more informal light. Students with professional jobs pointed to social norms as a potential difference between students and office workers. Even in a large class, students may act too informally because they feel uninhibited by the informal context of home learning and the seeming anonymity of a large group.

While context collapse has often previously been seen in a negative light, the vast general collapse may thus have engendered a sort of comradery among school and work contexts. A few participants mentioned not

wanting to be "that person" in their office social group who accidentally self-reveals, but most others acknowledged that such events would happen no matter the precautions. As the current COVID lockdown seems to be continuing into the foreseeable future, the role of texting and especially video in work and school may be here to stay. One way that our participants approached these challenges is with compassion and humor while perhaps gaining new personal insights into their co-workers and fellow students. And novel experiences such as students' increasing use of media in large classes seemed to promote Openness in those media, perhaps suggesting that the pandemic is leading us to discover and appropriate new uses for media. The emergence of casual events such as online trivia quizzes are one example of new uses people are discovering for media.

While these results are preliminary, there are also practical and design implications. Users of these technologies should be informed about the repeated self-presentation differences we observed across three studies for increased Agreeableness and reduced Neuroticism. Such information should allow users to make more informed decisions about their media choices for specific audiences and tasks. From a design perspective, results about the self-depicting video and self-consciousness are intriguing, and future work might explore differences in self-awareness and online behaviors for systems that present self-images in different ways or using different defaults.

6 Conclusion

We find large, reliable personality differences between different participant groups as well as different time points on different communication media. All groups presented themselves as more Agreeable and less Neurotic on video calls, and student groups saw themselves as less Neurotic due to who they were talking to, and the amount of control they have over the platform. Office workers were more Agreeable over Video in part due to context collapse, being able to see their co-workers in a different setting while staying safe at home. On Texting, students presented themselves as less Neurotic, because of their presentation control as well as the asynchronous nature of the platform. Office workers had few differences in self-presentation, with some noting that Texting is a simple communication platform with no opportunities for self-presentation. Differences between the students and office workers may be due to age or other factors, such as the increased reliance on video calls during the current pandemic. Results have implications for how we think of context collapse and the role of media in work and school contexts.

REFERENCES
[1]   Erik Brynjolfsson and Andrew McAfee. 2014. *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. W. W. Norton & Company.
[2]   Amy Colbert, Nick Yee, and Gerard George. 2016. The Digital Workforce and the Workplace of the Future. *AMJ* 59, 3 (June 2016), 731–739. DOI:https://doi.org/10.5465/amj.2016.4003
[3]   Enrique Dans. Let's Take Advantage Of Coronavirus To Get Comfortable Using Video Call Technology. *Forbes*. Retrieved June 22, 2020 from https://www.forbes.com/sites/enriquedans/2020/03/31/lets-take-advantage-of-coronavirus-to-get-comfortable-using-video-call-technology/
[4]   Michael A. DeVito, Jeremy Birnholtz, and Jeffery T Hancock. 2017. Platforms, people, and perception: Using affordances to understand self-presentation on social media. *Proceedings of the ACM Conference on Computer Supported Cooperative Work, CSCW* (2017), 740–754. DOI:https://doi.org/10.1145/2998181.2998192
[5]   Shelley Duval and Robert A. Wicklund. 1972. *A theory of objective self awareness*. Academic Press, Oxford, England.
[6]   Joel Fischer, Martin Porcheron, Andrés Lucero, Aaron Quigley, Stacey Scott, Luigina Ciolfi, John Rooksby, and Nemanja Memarovic. 2016. Collocated Interaction: New Challenges in "Same Time,

Same Place" Research. In *Proceedings of the 19th ACM Conference on Computer Supported Cooperative Work and Social Computing Companion - CSCW '16 Companion*, ACM Press, San Francisco, California, USA, 465–472. DOI:https://doi.org/10.1145/2818052.2855522

[7] Jesse Fox and Bree McEwan. 2017. Distinguishing technologies for social interaction: The perceived social affordances of communication channels scale. *Communication Monographs* 84, 3 (July 2017), 298–318. DOI:https://doi.org/10.1080/03637751.2017.1332418

[8] Erving Goffman. 1982. The presentation of self in everyday life. *The Presentation of Self in Everyday Life* (1982), 1–10.

[9] Samuel D. Gosling. 2009. *Snoop: What your stuff says about you*. Basic Books.

[10] Samuel D. Gosling, Sei Jin Ko, Thomas Mannarelli, and Margaret E. Morris. 2002. A room with a cue: Personality judgments based on offices and bedrooms. *Journal of Personality and Social Psychology* 82, 3 (2002), 379–398. DOI:https://doi.org/10.1037/0022-3514.82.3.379

[11] Rebecca E Grinter and Leysia Palen. Instant Messaging in Teen Life. 10.

[12] Pamela Hinds, Sara B. Kiesler, and Sara Kiesler. 2002. *Distributed Work*. MIT Press.

[13] Jacob B. Hirsh and Jordan B. Peterson. 2009. Personality and language use in self-narratives. *Journal of Research in Personality* 43, 3 (2009), 524–527. DOI:https://doi.org/10.1016/j.jrp.2009.01.006

[14] Ellen A Isaacs and John C Tang. What Video Can and Can't Do for Collaberation: A Case Study. 8.

[15] Oliver P. John, Laura P. Naumann, and Cristopher J. Soto. 2008. Paradigm shift to the integrative Big Five Trait taxonomy. *Handbook of personality: Theory and research* (2008), 114–158. DOI:https://doi.org/10.1016/S0191-8869(97)81000-8

[16] David S. Kirk, Abigail Sellen, and Xiang Cao. 2010. Home video communication: mediating "closeness." In *Proceedings of the 2010 ACM conference on Computer supported cooperative work - CSCW '10*, ACM Press, Savannah, Georgia, USA, 135. DOI:https://doi.org/10.1145/1718918.1718945

[17] Aniket Kittur and Robert E Kraut. Harnessing the Wisdom of Crowds in Wikipedia: Quality Through Coordination. 10.

[18] Robert E Kraut and Paul Attewell. Media Use in a Global Corporation: Electronic Mail and Organizational Knowledge. 29.

[19] Robert E. Kraut and Paul Resnick. 2012. *Building Successful Online Communities: Evidence-Based Social Design*. MIT Press.

[20] Robert Kraut, Susan Fussell, Susan E. Brennan, and Jane Siegel. 2002. Understanding Effects of Proximity on Collaboration: Implications for Technologies to Support Remote Collaborative Work. In *Distributed Work*. 137–162.

[21] Amanda Lenhart, Richard Ling, Scott Campbell, and Kristen Purcell. 2010. Teens and Mobile Phones. *Pew Research Center: Internet, Science & Tech*. Retrieved June 27, 2020 from https://www.pewresearch.org/internet/2010/04/20/teens-and-mobile-phones/

[22] Alice E. Marwick and danah boyd. 2011. I tweet honestly, I tweet passionately: Twitter users, context collapse, and the imagined audience. *New Media & Society* 13, 1 (2011), 114–133. DOI:https://doi.org/10.1177/1461444810365313

[23] Bonnie A. Nardi and Steve Whittaker. 2002. The Place of Face-to-Face Communication in Distributed Work. In *Distributed Work*. The MIT Press, 112. DOI:https://doi.org/10.7551/mitpress/2464.003.0008

[24] Bonnie A. Nardi, Steve Whittaker, and Erin Bradner. 2000. Interaction and outeraction: instant messaging in action. In *Proceedings of the 2000 ACM conference on Computer supported cooperative work* (CSCW '00), Association for Computing Machinery, Philadelphia, Pennsylvania, USA, 79–88. DOI:https://doi.org/10.1145/358916.358975

[25] Laura P. Naumann, Simine Vazire, Peter J. Rentfrow, and Samuel D. Gosling. 2009. Personality Judgments Based on Physical Appearance. *Personality and Social Psychology Bulletin* 35, 12 (2009), 1661–1671. DOI:https://doi.org/10.1177/0146167209346309

[26] Catherine S. Oh, Jeremy N. Bailenson, and Gregory F. Welch. 2018. A Systematic Review of Social Presence: Definition, Antecedents, and Implications. *Front. Robot. AI* 5, (2018). DOI:https://doi.org/10.3389/frobt.2018.00114

[27] Gary M. Olson and Judith S. Olson. 2000. Distance Matters. *Human–Computer Interaction* 15, 2–3 (September 2000), 139–178. DOI:https://doi.org/10.1207/S15327051HCI1523_4

[28] Michael F. Scheier and Charles S. Carver. 1985. The Self-Consciousness Scale: A Revised Version for Use with General Populations1. *Journal of Applied Social Psychology* 15, 8 (1985), 687–699. DOI:https://doi.org/10.1111/j.1559-1816.1985.tb02268.x

[29] Abigail Sellen. 1995. Remote Conversations: The Effects of Mediating Talk With Technology. *Human-Comp. Interaction* 10, 4 (December 1995), 401–444. DOI:https://doi.org/10.1207/s15327051hci1004_2

[30] Abigail J Sellen. 1992. Speech Patterns in Video-Mediated Conversations. In *Proceedings of the 1992 CHI Conference on Human Factors in Computing Systems*, 11.

[31] Christopher J. Soto and Oliver P. John. 2017. The next Big Five Inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. *Journal of Personality and Social Psychology* 113, 1 (2017), 117–143. DOI:https://doi.org/10.1037/pspp0000096

[32] Christopher J. Soto, Oliver P. John, Samuel D. Gosling, and Jeff Potter. 2011. Age Differences in Personality Traits From 10 to 65: Big Five Domains and Facets in a Large Cross-Sectional Sample. *Journal of Personality and Social Psychology* 100, 2 (2011), 330–348. DOI:https://doi.org/10.1037/a0021717

[33] Cory Stieg. 2020. The psychological reasons why everyone's burned out on video conferencing, according to experts. *CNBC*. Retrieved June 22, 2020 from https://www.cnbc.com/2020/04/27/why-video-chat-during-covid-19-self-quarantine-causes-social-burnout.html

[34] Lee Taber and Steve Whittaker. 2018. Personality Depends on The Medium: Differences in Self-Perception on Snapchat, Facebook and Offline. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems - CHI '18*, ACM Press, Montreal QC, Canada, 1–13. DOI:https://doi.org/10.1145/3173574.3174181

[35] Lee Taber and Steve Whittaker. 2020. "On Finsta, I can say 'Hail Satan'": Being Authentic but Disagreeable on Instagram. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, ACM, Honolulu HI USA, 1–14. DOI:https://doi.org/10.1145/3313831.3376182

[36] Eli Typhina and Richard Ling. 2016. Ling, R., & Typhina, E. (for publication 2016). Mobile communication. In: A. de Souza e Silva (Ed.), Debates on Mobile Communication. New York: Routledge. (2016). DOI:https://doi.org/10.13140/RG.2.1.2014.2161

[37] J.B. Walther. 1996. Computer-mediated Communication. Impersonal, Interpersonal and Hyperpersonal Interaction. *Communication research* 23, 1 (1996), 3–43. DOI:https://doi.org/0803973233

[38] Tiffanie Wen. How coronavirus has transformed the way we communicate. Retrieved June 27, 2020 from https://www.bbc.com/worklife/article/20200408-coronavirus-how-lockdown-helps-those-who-fear-the-phone

[39] Steve Whittaker. 1995. Rethinking video as a technology for interpersonal communications: theory and design implications. *International Journal of Human-Computer Studies* 42, 5 (May 1995), 501–529. DOI:https://doi.org/10.1006/ijhc.1995.1022

[40] Steve Whittaker and Brid O'Conaill. 1997. The Role of Vision in Face-to-Face and Mediated Communication. In *Video-Mediated Communications*, Kathleen Finn, Abigail Sellen and Sylvia Wilbur (eds.). Lawrence Erlbaum Associates, 23–49.

[41] Steve Whittaker and Canadace Sidner. 1996. Email overload: exploring personal information management of ernail. *In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (1996), 276–283.

[42] Steve Whittaker, Loen Terveen, Will Hill, and Lynn Cherny. 2003. The Dynamics of Mass Interaction. In *From Usenet to CoWebs: Interacting with Social Information Spaces*, Christopher Lueg and Danyel Fisher (eds.). Springer, London, 79–91. DOI:https://doi.org/10.1007/978-1-4471-0057-7_4