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Blair Wang

*University of Sydney*, [blair.wang@sydney.edu.au](mailto:blair.wang@sydney.edu.au)

Julian Prester

*University of Sydney*, [julian.prester@sydney.edu.au](mailto:julian.prester@sydney.edu.au)

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# **The Performative and Interpretive Labour of Videoconferencing: Findings from a Literature Review on 'Zoom' Fatigue**

*Short Paper*

**Blair Wang**

The University of Sydney  
Sydney, Australia  
blair.wang@sydney.edu.au

**Julian Prester**

The University of Sydney  
Sydney, Australia  
julian.prester@sydney.edu.au

## **Abstract**

*Videoconferencing fatigue or 'Zoom' fatigue has emerged as a distinct and pressing phenomenon in light of rapid videoconferencing adoption during and after the COVID-19 pandemic. As part of an ongoing broader literature review project, we find that extant literature primarily conceptualises videoconferencing fatigue as an error that needs to be detected and corrected based on techniques derived from medical, psychological, technological and media theories. However, we observe that videoconferencing is also a work activity, and thus consider what additional insights on videoconferencing fatigue could be obtained by deconstructing videoconferencing according to the labour that is involved in videoconferencing. Based on thematic analysis of the extant literature, we thus develop a perspective on videoconferencing in relation to the performative and interpretive labour that videoconferencing entails. This new way of thinking about videoconferencing fatigue, as labour cost, enables us to offer implications for theory and practice, and comment on directions for future research.*

**Keywords:** videoconferencing, zoom fatigue, videoconferencing fatigue, labour, performative labour, interpretive labour, emotional labour, literature review

## Introduction

Videoconferencing fatigue (or '*Zoom*' fatigue) has emerged as a phenomenon of interest following the rapid adoption of videoconferencing during the COVID-19 pandemic (Hacker et al. 2020; Waizenegger et al. 2020). Cases of videoconferencing fatigue have been reported in online learning settings (Toney et al. 2021), telehealth settings (Shklarski et al. 2021), church services (Huygens 2021), and regular work meetings (Vidolov 2022). The term '*Zoom*' fatigue — popularised by *Harvard Business Review* (Fosslien and Duffy 2020) and *National Geographic* (Sklar 2020) — is now the commonly accepted term for a range of experiences including exhaustion induced by other videoconferencing technologies (de Oliveira Kubrusly Sobral et al. 2022; Kuhn 2022). As videoconferencing likely remains prevalent even after the COVID-19 pandemic (Smet et al. 2020), videoconferencing fatigue is likely to remain a pressing issue. However, the existing literature largely frames videoconferencing fatigue as an error that needs to be detected (Fauville et al. 2021) and corrected (Toney et al. 2021). The extant techniques for such error detection and correction have considered technological, medical/psychological, and even pedagogical solutions (given the implications for online teaching). Videoconferencing fatigue has been understood through theoretical lenses and perspectives — ranging from technology affordances (Vidolov 2022), media richness theory (Döring et al. 2022) and media naturalness theory (Riedl 2021) — to neurology (Wiederhold 2020), attention-restoration psychology (Döring et al. 2022), and the pedagogical considerations of designing learning materials (Ebner and Greenberg 2020). Although such contributions are valuable and informative, they do take the implicit assumption of videoconferencing fatigue as something to overcome.

The objective and purpose of this paper is to explore what new knowledge or perspectives could be gained by problematising this assumption of videoconferencing fatigue as an error to be corrected. Based on an ongoing review of literature on videoconferencing fatigue, we begin by observing that videoconferencing fatigue seems to emerge as a consequence of workers undertaking a specific kind of labour. Grounded in this critical reading of the literature, we suggest a set of 5 propositions that inform a view of videoconferencing fatigue not necessarily as an error that must be corrected, but as a cost that is incurred when videoconferencing-related labour is performed. With this reconsideration of videoconferencing fatigue not as primarily a result of erroneous *inappropriate use of* videoconferencing (cf. Riedl 2021), but as a foreseeable cost incurred by *laborious participation in* videoconferencing, our contribution is a new perspective on videoconferencing fatigue, entailing theoretical and practical implications.

## Research Approach

Our problematisation of the extant literature on videoconferencing fatigue emerged from our broader ongoing research project to review the literature on the videoconferencing fatigue phenomenon overall. The sudden growth of the literature (arising due to the COVID-19 pandemic), combined with a narrow focus in existing research, clearly requires a synthesis of what we already know and guidance on what areas of research remain understudied. The aim of our broader ongoing research project is therefore to answer the research question: *What do we know about 'Zoom' fatigue (videoconferencing fatigue) and what are the opportunities for future research?*

We are answering that research question based on a scoping review, which is a suitable review type for synthesising and mapping the literature on an emerging phenomenon (Paré et al. 2015). However, this paper reports on a critical perspective on the literature that emerged from our broader, ongoing scoping review. Thus, the specific insights presented in the Findings section below constitute a critical review (Paré et al. 2015) extracted from our broader, ongoing scoping review. This analytical cut reflects the hermeneutic approach to literature review (Böll and Cecez-Kecmanovic 2014) that we followed.

Our literature search to identify relevant papers followed an iterative process in line with the hermeneutic approach to literature review (Böll and Cecez-Kecmanovic 2014). In the first iteration, we searched through IS journals and IS conferences (through *www.litbaskets.io* and the *AIS eLibrary*), using the search term "zoom fatigue". In the second iteration, we extended our search to other disciplines by including results from the general-purpose databases *Scopus* and *Web of Science* as well as the disciplinary databases *ERIC*, *PsycINFO*, *PubMed*, and *DBLP*. In the third iteration, we broadened our set of keywords to include "zoom fatigue", "videoconferencing fatigue", and "CMC exhaustion". After the third iteration, we had a corpus of 221 records, including duplicates. After removing duplications, we had a corpus of 74 unique records.

During the first screen, we excluded 11 papers that were not available in English, not peer-reviewed, or otherwise inaccessible. During the second screen, we excluded 1 paper by selecting only the papers that focus broadly on the phenomenon of videoconferencing fatigue ('Zoom' fatigue) based on our reading of papers' titles and abstracts. During the third screen, we excluded 16 papers based on further relevance-based exclusion criteria. Borderline cases were discussed among the authors to ensure consistency before final reconciliation, at which point we were left with 46 papers. After screening, our synthesis of the literature followed a largely inductive analytical approach based on thematic analysis (Webster and Watson 2002). The thematic analysis began with open coding in which we extracted the key findings in relation to videoconferencing fatigue from each paper. During the later stages of our analysis we organised the findings into higher level themes, which we expressed as propositions constituting the knowledge claims that we identify in the reviewed literature. These themes are grounded in our reading of the literature, rather than based on any particular *a priori* assumptions, theories or theoretical lenses. A subset of these themes are directly related to the perspective of videoconferencing fatigue as performative labour; these are the themes (expressed as propositions) presented in the next section.

## **Synthesis of Findings**

### **Proposition 1: Videoconferencing Participation Entails Fatiguing *Performative Labour***

Our review of the literature reveals that participating in videoconferencing requires specific patterns of communication. This is true both when one is speaking (i.e., one is taking on the role of a presenter) and when one is listening (i.e., one is taking on the role of an audience member). For effective videoconferencing communication, presenters must speak in a certain exaggerated way in order to overcome the limitations of the medium; they are required *"to speak louder ... and to use more intensive gestures and facial expressions (e.g., more smiles)"* (Döring et al. 2022, p. 10). Presenters also find themselves needing to *"constantly provide a positive attitude to convey enthusiasm and positive energy to the audience"* whilst at the same time, paradoxically, *"a good presenter needs to challenge the audience by puzzling it and providing unexpected and even temporarily painful information, which then will be resolved over the course of the presentation"* (Rößler et al. 2021, p. 12). Meanwhile, for audience members, *"our constant gaze toward the camera to show that we're paying attention is an artificial behavior that does not reward us with the reciprocal benefits of in-person eye contact, and consequently drains us of energy"* (Ebner and Greenberg 2020, p. 538).

We identify that adopting these patterns of communication is a form of labour; specifically, it is *performative labour*. Performative labour is *"the rendering of work by managements and employees alike as akin to a theatrical performance in which the workplace is construed as similar to a stage"* (Bryman 2004, p. 103). Although none of the papers explicitly applies this particular term, we interpret the substance of their findings to match with the meaning of the term, in line with the hermeneutic principles for literature review (Böll and Ceez-Kecmanovic 2014). We therefore begin our analysis from this starting point that videoconferencing participation entails fatiguing performative labour.

### **Proposition 2: Performative Videoconferencing Labour Entails Space-Making Tasks**

The fatiguing labour of 'performing' for a videoconference is not only labour upon one's body but also labour of constructing the space in which the performance takes place. Again, this is true for both presenters and audience members. The videoconferencing platform itself is a virtual space, but one that the participants actively manipulate to collectively *"build a cohabited virtual space"* (Nadler 2020, p. 8). However, *"as a computer can simultaneously have tabs and windows open to an essay, Instagram, Netflix, Gmail, Wikipedia, etc., [videoconferences] do not merely occur through devices capable of changing virtual spatial narratives; they can erect multiple spaces at once"* (Nadler 2020, p. 9).

Furthermore, the virtual space in which a videoconference takes place is at least in part materialised by microphones, cameras, and the rooms from which the participants are broadcasting. These are all entangled in the performative act, and participants may be very aware of them when constructing their performances as they consider *"what direction to point the camera, concern regarding home decor, having to clean up dirty plates, ashtrays and personal items, pets and children invading the 'sacred space' and potential embarrassment of an inappropriate filter, a relative coming into shot, an embarrassing item or*

*controversial book in the bookcase*" (Williams 2021, p. 164). Sometimes the authenticity of an unadulterated space forms, intentionally or otherwise, part of the performance: for example, *"a male CFO taking a meeting in his daughters' room with fairy wall motifs"* (Johns et al. 2021, p. 729) may present that individual in a particularly sympathetic and humanising way. The possibility of concealing one's actual room entirely using a virtual background provides yet another opportunity for further manipulation of virtual space — and the fatiguing deliberation that this opportunity entails: *"although many of them felt that choosing a "bright" or "funny" background improves the meeting atmosphere and offers a safe topic for discussion, some of them felt that such "colourful backgrounds" were not professional [...] some of the respondents would also change the virtual background to avoid matching the colours of their clothes in important meetings"* (Vidolov 2022, p. 15). In light of all these considerations, Nadler (2020) theorises the constructed space(s) of videoconferencing as a 'third skin' — a form of self-presentation and impression management that is as consequential as one's flesh and apparel (the 'first skin' and 'second skin' respectively). Such attentive manipulation of this 'third skin' for a videoconferencing 'performance' is, unsurprisingly, fatiguing.

### **Proposition 3: Performative Videoconferencing Labour Entails Self-Surveillance Tasks**

Under typical circumstances, neither the keynote speaker in an auditorium, nor the stage performer in a theatre, nor the active speaker in a meeting, nor the teacher in a classroom, can see a mirror image of themselves performing. Furthermore, under typical circumstances, the audience members do not each see a mirror image of themselves as perceived by the performer. Yet, the 'self-view' functionality present in most videoconferencing systems establishes exactly such a mirror image, and the real-time self-surveillance that this mirror image constitutes: *"Zoom users are seeing reflections of themselves at a frequency and duration that hasn't been seen before in the history of media and likely the history of people (with exceptions for people who work in dance studios and other places that are full of mirrors)"* (Bailenson 2021, p. 4). The fatiguing effect of this mirror image is variously referred to in the literature as the *facial dissatisfaction* effect (Ratan et al. 2022), the *mirror anxiety* effect (Döring et al. 2022), or the *all day mirror* effect (Bailenson 2021). Empirical evidence indicates that the effect is more severe amongst individuals with high public self-consciousness (Kuhn 2022); more severe for ethnically 'Asian' individuals than ethnically 'White' individuals (Ratan et al. 2022); more severe for those with shorter tenure in an organisation than those with longer tenure (Shockley et al. 2021); and more severe for women than for men (Ratan et al. 2022; Shockley et al. 2021).

Whilst it is possible to switch off the self-view functionality (Bailenson 2021; Kuhn 2022; Vidolov 2022), switching off self-view functionality may have unintended consequences. As quoted above, Bailenson (2021) alludes to dance performers who use mirrors to monitor their performance, in an intentional act of self-surveillance; the self-view functionality on videoconferencing platforms seems to offer a similar affordance (albeit with unintended consequences). This affordance is vividly visible in the anecdote shared by one of the individuals interviewed by Vidolov (2022): *"I switched off my self-view window ... after the meeting I realized that I had a piece of spinach between my teeth which could've been avoided had I not switched my self-view window"* (Vidolov 2022, p. 12). Similarly, individuals participating in the research presented by Kuhn (2022) *"described the fear of being accidentally on camera or unmuted as the worst thing about virtual meetings"* (Kuhn 2022, p. 6). Essentially, the self-view functionality, whilst fatiguing, serves an important supporting role for the videoconferencing participant's performative labour. As an alternative to completely switching off one's 'self-view', some videoconferencing participants adopt strategies to minimise their 'stage' presence in both the audience's view and their own mirrored self-view. Minimising one's videoconferencing 'stage' presence could involve *"positioning oneself further away from the camera"*, or strategising to *"select the appropriate position of their devices in relation to the nearest window so that the daylight makes their appearance somewhat blurry"* (Vidolov 2022, p. 15).

### **Proposition 4: Performative Videoconferencing Labour Entails Visual Adjustment Tasks**

So far, we have established that every videoconferencing participant is undertaking performative labour, both while speaking as a presenter and while listening as an audience member. This performative labour is both a performance of one's body and a performance of ongoing space-construction, akin to that which is required in a stage performance. Additionally, this performative labour involves not only paying attention to the video camera feeds of all the other participants, but also one's own 'self-view'.

The intention of videoconferencing is to replicate the visual experience of an in-person meeting between individuals. However, as Kushner (2021) puts it, “*common videoconferencing hardware setups necessitate that if a user looks at the image of the person with whom they are in videoconference, they will not be looking directly at the camera and will appear to not be making direct eye contact*” (Kushner 2021, p. 175): a phenomenon that Kushner (2021) names ‘eccentric gaze’. Videoconferencing participants must therefore mentally perform visual adjustment tasks, i.e., tasks to imagine what kind of eye contact was intended by their peers, rather than the ‘eccentric gaze’ eye contact that is actually received. Additionally, Bailenson (2021) points out that in grid-based videoconferencing platforms like Zoom, “*a user might see a pattern in which on their grid it seems like one person glanced at another [even when] that is not what actually happened ... users are constantly receiving nonverbal cues that would have a specific meaning in a face-to-face context but have different meanings on Zoom*” (Bailenson 2021, p. 3). In light of the self-surveillance that performative videoconferencing labour also entails (cf. Proposition 3 above), at least some of these illusory glances may be individuals inspecting their own self-view. Thus, the visual adjustment tasks include not only offsetting eccentric gaze in one’s imagination, but also assessing apparent furtive glances and discarding those that one deems likely to be superfluous.

Given this fatiguing workload of visual adjustment tasks, people may “*find it very difficult while talking or when just listening to follow my own expressions and this of my discussant at the same time*” (Vidolov 2022, p. 11). To reduce these fatiguing conditions, it is often advised that “*to create the illusion of direct eye contact, you should look at your camera, not at the other participants*” (Wiederhold 2020, p. 438). While following this advice could conceivably improve how one appears to others, it also adds yet another item to one’s mental workload during videoconferencing.

### **Proposition 5: Videoconferencing Participation Entails Fatiguing *Interpretive Labour***

Based on the propositions 1 to 4 presented above, one may conceivably get the impression that videoconferencing participation is an exclusively dramaturgical action: performing to ‘put on a show’. However, except in situations where videoconferencing is literally being used for theatrical purposes, videoconferencing is more than just ‘putting on a show’; one must actually engage with the ideas being shared. Thus, just as we identified some of the concepts in the literature under the term *performative labour*, we also identify some other concepts under the term *interpretive labour*. Interpretive labour entails the effort required to understand not only “*a superficial sense of what others are thinking or feeling just by observing their tone of voice, or body language [...] but going beyond that superficial [...] to decipher others’ motives and perceptions*” (Graeber 2015, p. 73).

The literature seems to indicate that the interpretive labour of videoconferencing entails a different set of opportunities and challenges than would be required for other forms of communication. Specifically, interpretive labour undertaken in videoconferencing settings is complicated by:

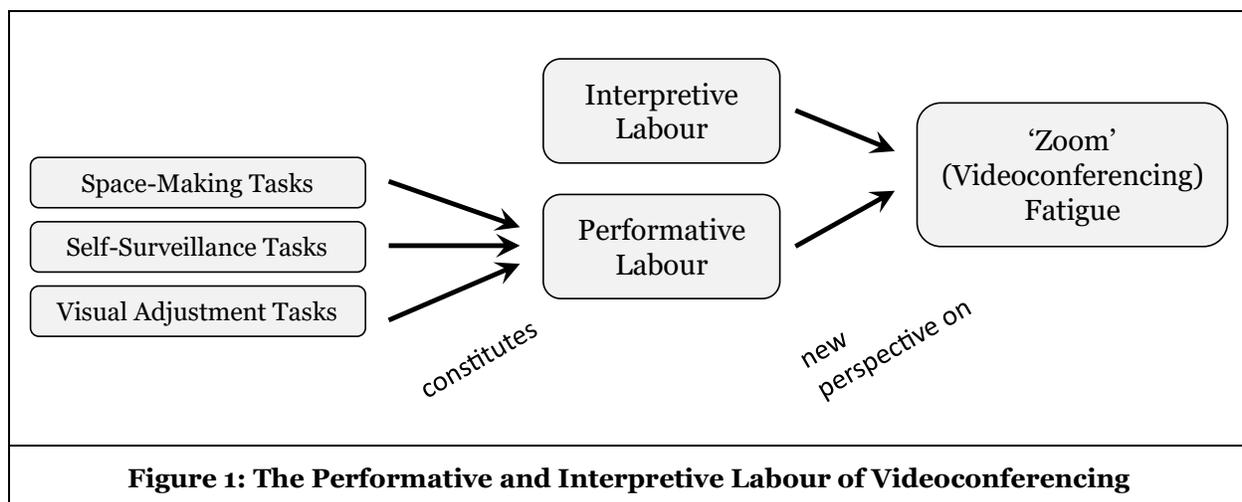
1. **AUXILIARY STREAMS OF INFORMATION EXCHANGE:** Videoconferencing platforms typically enable participants to engage with multiple auxiliary streams of information exchange in addition to audio/video. Participants can exchange instant ‘chat’ text messages (Johns et al. 2021; Vidolov 2022), broadcast emoji-based signals with designated meanings such as applause and raising one’s hand (Nesher Shoshan and Wehrt 2021; Vidolov 2022), and share one’s screen (Toney et al. 2021). Each of these auxiliary streams presents additional material that participants are required to interpret in realtime, adding to cognitive load; particularly in cases where such material may have ambiguous meaning. For example, emoji-based signals may be sometimes genuine yet at other times represent the feeling of “*I just can’t force myself to say something when some of the crappy colleagues is being praised mostly due to self-promotional, lip service [so] I just then use an emoji*” (Vidolov 2022, p. 14). The auxiliary streams can also be abused in the form of “*incessant interruption*” or “*spamming*” (Johns et al. 2021, p. 728).
2. **AUDIO-VIDEO LATENCY:** Latency is prevalent on videoconferencing platforms, and seems to be psychologically disruptive for interpretation as cognitive load is expended to reconstruct the intended *synchrony*, the “*precisely timed vocalizations, gestures, and movements to communicate, and they rely on precise responses from others to determine if they are being understood*” (Wiederhold 2020, p. 437). The expending of this cognitive effort is linked to the “*enhanced frustration and stress*” symptomatic of videoconferencing fatigue (Riedl 2021, p. 8).

3. **EXAGGERATED PROMINENCE OF FACIAL PRESENCE RELATIVE TO BODY PRESENCE:** The way in which videoconferencing is typically used involves a rectangular frame of one's upper torso and head. Much non-verbal communication occurs in this part of the human body, but crucially not all of it, so some normal non-verbal cues — such as one's stance, gesticulations and interactions with one's surroundings — are not captured (Riedl 2021; Zubek et al. 2022). Consequently, interpretation must draw more from what is visible in facial expressions. For example, psychotherapists conducting therapy sessions over videoconferencing experienced that they needed *“to compensate by paying especially close attention to what was in their view, such as observing eye contact or shifting in one's seat”* (Shklarski et al. 2021, p. 60); as one psychotherapist puts it, *the way Zoom works, you're seeing them so close up it's like you see every little flicker of the tiny muscles around their eyes in a way that you wouldn't necessarily if they were sitting a normal sort of therapeutic distance from you”* (Shklarski et al. 2021, p. 60). This interpretive fixation on faces is itself further complicated by the unusual size and resolution of faces that varies greatly between devices, screen layouts and computer network traffic conditions, but is rarely exactly the size and effective resolution of what one would experience in an in-person meeting. As such, *“it can be unnerving to have a person's enlarged face in your space, something that our brains can register as threatening”* (Wiederhold 2020, p. 437); *“seeing a row of faces staring directly at you is artificial or even disconcerting”* (Collins 2020, p. 491).

These idiosyncrasies of videoconferencing, as a medium of communication, result in a particular kind of interpretive labour; comparable to and yet characteristically different from other similarly rich and similarly unnatural mediums of communication. Virtual Reality (VR), for example, resolves some of the issues around facial presence by doing away with the video camera altogether and replacing it with a digital avatar; however, VR also introduces computational and organisational complexity (Eriksson 2021; Wiederhold 2020). Another different medium of communication is a videoconference call on a platform like Zoom, but with the microphones and video cameras of the audience switched off to conserve bandwidth for the presenter's broadcast (Amponsah et al. 2021). In this more lightweight and asymmetrical kind of videoconferencing, the speaker benefits from the increased likelihood that the signal from their computer will be carried successfully to the computers of the audience members, and the audience members benefit from a respite from their performative labour (Nesher Shoshan and Wehrt 2021; Wiederhold 2020); however, the speaker is less able to 'read' the audience to confirm that they have been understood (Nesher Shoshan and Wehrt 2021; Peper et al. 2021), or indeed that the audience is even paying attention instead of responding to emails and checking social media (Peper et al. 2021) — a behaviour that, ironically, could exacerbate videoconferencing fatigue (Riedl 2021).

## Implications for Theory and Practice

By deconstructing 'Zoom' fatigue according to the labour that is involved (see Figure 1), we already arrive at two considerations to which we draw the attention of both scholars and practitioners.



Firstly, our analysis raises the question of whether workers' time and effort invested in performative/interpretive labour generates meaningful return on investment. In some cases, teleconferencing is indeed meaningful but could be managed to reduce the labour overheads with low, or negative, return on investment. For example, a teacher generating value through performative/interpretive labour during a videoconference classroom with students, entailing pedagogical benefits, is a very different scenario to a team of engineers collaborating on a technical document through screen-sharing. In the latter scenario, the performative/interpretive labour overhead may be of questionable value and could be reconsidered; perhaps the engineers could turn their cameras off and focus their visual attention on the technical document that they are working on. In other cases, when a Zoom call "*could have been an email*" or "*could have been a phone call*" (Kuhn 2022, p. 6), over-utilising Zoom calls is arguably wasteful of workers' exertion. During the early days of the COVID-19 pandemic, Doyle and Conboy (2020) warned of post-pandemic IT practices becoming "a perpetual series of short-termist, disconnected Sisyphean tasks" (Doyle and Conboy 2020, p. 4). Unnecessary performative/interpretive videoconferencing labour, disconnected from actual return on investment, may resemble such Sisyphean tasks. Conventional advice to avoid multitasking, take regular breaks and reduce onscreen stimuli (e.g., Fosslie and Duffy 2020) — whilst valuable — would not recover the lost opportunity cost of the labour expended; this is like asking Sisyphus, the character of Greek mythology condemned to roll a boulder up a hill repeatedly for eternity, to take regular breaks whilst doing so.

Secondly, our analysis raises the question of *who* is being asked to exert the labour. The strenuousness of performative and interpretive videoconferencing labour — as per the findings above — do not affect all groups equally, and as Shockley et al. (2021) point out, such strenuousness disproportionately affect groups that may be traditionally marginalised. Such concerns are particularly salient when considering videoconferencing fatigue not necessarily as an error that must be corrected, but as a cost incurred through the deployment of human labour that can be managed. For example, the finding that women are more impacted by certain aspects of performative and interpretive videoconferencing labour than their male colleagues (Ratan et al. 2022; Shockley et al. 2021) would be particularly concerning in circumstances where women are also systemically paid less due to a gender-wage gap, and should give pause to the ethical implications of a 'camera on' policy in such circumstances. Understanding videoconferencing fatigue not only as some unfortunate limitation of technology, but as an entirely foreseeable consequence of workers undertaking labour, also brings attention to broader critical issues of power, control, hierarchy, ethics and justice within organisations — issues that are not yet well-understood in the context of videoconferencing fatigue (Abdelrahman 2022). For example, the difference in the experience of videoconferencing fatigue depending on one's rank and role in the organisational (e.g., front-line vs. managerial roles) is not yet well-understood.

## **Future Directions**

The model depicted in Figure 1 offers a foundation for future research. Future research could leverage our performative/interpretive labour perspective to ask questions related trade-offs and cost-benefit analysis. In other words, it may be worthwhile assessing — for various contexts — whether the cost incurred due to videoconferencing fatigue is sufficiently outweighed by the benefits or value delivered, and what alternatives might be worth considering. Future research could also strengthen the empirical evidence for techniques to improve the performative/interpretive labour conditions of videoconferencing. Although we have followed a largely inductive, grounded approach with no particular *a priori* theoretical lens, some future studies could take a more deductive, confirmatory approach. Future research could, for example, integrate our performative/interpretive labour perspective with the emerging strand of teleconferencing fatigue literature that takes a technostress perspective (Day et al. 2012), engaging with theories like the transactional theory of stress as in the case of the study by Anh et al. (2022), to ask questions of the mechanisms by which videoconferencing induces stress (manifested as "Zoom fatigue"). In a similar sense, future research could integrate our performative/interpretive labour perspective with research areas like Computer-Mediated Communication (CMC), in which it is possible to engage with specific models such as the hyperpersonal model of communication (Walther 2007). Likewise, future research could take a design science perspective to investigate how the design of videoconferencing platforms could reduce the fatiguing burden of labour.

The findings that we have presented in this paper constitute only part of our broader research project. That project goes beyond initial reviews of the literature on videoconferencing fatigue (Döring et al. 2022; Riedl 2021) by offering an inductively developed multi-level framework. In particular, we follow a *mixed-compositional* multi-level analysis (Bélanger et al. 2014) to organise our mapping of the state of the literature according to individual, organisational, design, and institutional levels of analysis. We include “design” to reflect the importance of design — not only the design of videoconferencing platforms but also jobs, incentives, policies, work practices, team structures and organisational structures. In sum, we envision that a multi-level analysis, grounded in the perspective of videoconferencing fatigue as a by-product of (potentially) productive labour, may help us arrive at new research opportunities and the creation of practically-applicable knowledge.

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