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Adapting Mental Health Needs Analysis Activities to Online and Hybrid Methods: Lessons Learned During COVID-19

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ABSTRACT

In response to the shift to remote work due to COVID-19, the challenges and opportunities of conducting mental health needs analysis activities via online and hybrid methods were explored, along with the influences on task-technology adaptations. Through online focus group interviews, the findings have revealed that the type of task performed and situational factors influenced the experience of challenges and opportunities. More opportunities were associated with dyadic activities, whereas challenges were particularly salient within group activities. Only adaptations aimed at enhancing opportunities and resources were continued long-term. Implications for Information Systems theory and organizational practice are discussed.

Keywords: Adaptation, Mental Health, Needs Analysis, Online, Hybrid, ICT, COVID-19

1. Introduction

There is a pressing need to adapt organizational processes and practices in response to the increasing shift toward remote and hybrid working. In the European Union (EU), the proportion of workers working remotely “usually or sometimes” rose from 14% in 2019 to 22% in 2022 (Zucconi et al., 2024), with 31% of workers across the EU indicating a preference to work remotely from home several times a week and 16% preferring to work from home daily (Ahrendt et al., 2021). This shift means that fully onsite working is

expected to become a relic of the past (Wigert & Agrawal, 2022). Consequently, organizations need to consider how to adapt work processes for this new context, such as how to involve employees in decision making to ensure that their views are incorporated.

One important organizational process that requires input from a range of stakeholders is the assessment of employee needs that inform the development of mental health interventions at work. Gaining representative views of relevant needs from a range of employees in different circumstances ensures that the interventions developed are appropriate for the entire workforce (Nielsen & Christensen, 2021). In the case of remote workers, it is important to ensure that their needs are represented, given the evidence suggesting that those working in such circumstances may have specific mental health demands and resources (e.g., work–life balance, social isolation, access to support) (Bentley et al., 2016; Tušl et al., 2021). Thus, as many organizations move to remote and hybrid (part onsite/part offsite) ways of working, the process of assessing mental health needs and planning interventions also must adapt to ensure that such employees are consulted.

The process of gathering data that adequately captures these mental health needs might not be straightforward, however, as interaction with remote employees necessitates the use of information and communication technologies (ICTs). The technology-mediated communications literature highlights the possible challenges associated with attempts to gather rich information via ICTs, such as lack of social cues (Daft & Lengel, 1986; Sproull & Kiesler, 1986) and increased cognitive load or fatigue (Bennett et al., 2021; Riedl, 2022). On the other hand, there might be advantages to using ICTs, such as more

control over the physical environment in which the interaction takes place (Gray et al., 2020; Mabragaña et al., 2013) and enhanced technology affordances, providing opportunities for action that would not be achieved easily face-to-face, such as improved healthcare delivery in remote areas (Thapa & Sein, 2018). Although existing information systems (IS) literature provides some insights, the challenges and opportunities associated with the specific context of online or hybrid mental health needs analysis is a neglected topic.

In adapting methods for the online environment, it is important to understand the extent to which these challenges and opportunities influence the modifications made. Although it is acknowledged that task-technology adaptation is important for ensuring effectiveness and goal attainment (Jasperson et al., 2005; Massey & Montoya-Weiss, 2006), there is limited understanding within the adaptations literature about the mechanisms that determine whether the new ways of working are successful long-term (Zhou et al., 2024). Adaptation is typically understood to occur as a result of discrepant events (Bala & Venkatesh, 2016; DeSanctis & Poole, 1994) and in response to deficiencies (Thomas & Bostrom, 2010), but there is little focus on how more positive aspects (or opportunities) influence adaptations.

The literature on affordances takes a more positive view of technology's potential, with scholars examining the process of actualising the possibilities for action with technology (Du et al., 2019; Thapa & Sein, 2018). However, this literature tends to focus on the degree of affordance realisation within specific use contexts rather than on negative outcomes. Combining these insights into a framework that considers both positive

(opportunities) and negative influences (challenges) on task-technology adaptation is therefore likely to be informative. Given the recognition that adaptation processes involve appraisal, coping, and emotions (Beaudry & Pinsonneault, 2005; Zhou et al., 2024), well-being theories may offer helpful insights into this topic. In organizational contexts, it may be especially relevant to consider well-being theories that focus on the facilitating and hindering aspects of work in driving motivational and well-being processes, such as the Job Demands-Resources model (Bakker et al, 2023; Demerouti et al., 2001). Such demands and resources are important during change processes and can predict successful adaptation to change (Van den Heuvel et al., 2013). Thus, using such a framework could help deepen our understanding of the impact of the challenges and opportunities experienced in task-technology adaptations.

Here we ask two interrelated research questions: (1) what are the main challenges and opportunities associated with conducting mental health needs analysis activities via online and hybrid methods?; and (2) how do these challenges and opportunities inform the adaptations made to mental health needs analysis activities? We examine these questions in the context of a project in which mental health needs analysis activities had to be quickly, and unexpectedly, adapted from face-to-face to online or hybrid approaches due to COVID-19 restrictions. Drawing on the IS and employee well-being literature, we extend theory in this area by highlighting both the challenges and opportunities associated with online mental health needs analysis activities and the influence of these challenges and opportunities on the task-technology adaptations made and how they determine the longevity of adaptations beyond the pandemic. We aim not only to examine the impact of challenges in driving adaptations, but also to explore the

role of more positive, opportunity-focused drivers of adaptation in motivating the continued use of these online methods. We also call attention to the impact of multiple contextual contingencies that interact with the challenges and opportunities to drive task-technology adaptations. These insights can shape future research and practice, as remote and hybrid working practices are likely to persist.

2. Literature Review and Theory Development

2.1. Mental Health Needs Analysis Process

Mental health needs analysis is an important organizational process to consider because in many countries, organizations are required to monitor risks to employee health (including mental health) and take action to remove risks and promote employee well-being (Leka et al., 2015; Wynne et al., 2016). It is widely recognized that employees and their representatives should be included in consultations related to health and safety at work, including mental health (European Council, 1989; WHO, 1986). Participative approaches not only ensure greater buy-in from employees, but also ensure a good fit of the intervention programme to the organizational context and objectives (von Thiele Schwarz et al., 2021), which increases the likelihood of success due to incorporating employee expertise on the subject (Nielsen & Christensen, 2021; Nielsen & Randall, 2015). Thus, in this study, we focus on activities that involve employees in the assessment of mental health needs. Our focus is on the *process* (methods and activities) used for gathering data and involving employees in the needs analysis, rather than on the *outcomes* of the mental health needs analysis or the interventions that resulted from this process.

To remove the risk of health impairment and promote employee motivation and well-being, mental health interventions should focus on needs relating to both the resources and the demands of the work environment (Kelloway et al., 2023), in line with the Job Demands-Resources (JD-R) model (Bakker et al., 2023; Bakker & Demerouti, 2007; Demerouti et al., 2001). Demands are aspects of work that require sustained physical or psychological effort and thus tend to drain energy and lead to mental health impairment, whereas resources are aspects of work that are functional in achieving work goals, which help reduce demands or stimulate growth and development (Demerouti et al., 2001). Thus, needs analysis activities need to focus on collecting information about both demands and resources. Moreover, given that the demands and resources experienced may vary for those working under different working conditions, in different roles, and with different backgrounds (Demerouti & Bakker, 2023; Fila et al., 2017), it is important to ensure that representative views are gathered from all parts and levels of the organization (Day & Nielsen, 2017).

An additional consideration is that along with informing the questions asked within the needs analysis, JD-R theory can be used to inform the *process* by which these needs analysis activities are undertaken. Mental health needs analysis is a work process in itself that requires activities to be conducted with adequate resources and without overburdening participants or data collectors. Thus, given the focus on both positive and negative aspects of the work context, this framework can be used to examine both the challenges and opportunities experienced when conducting needs analysis activities.

To better understand the details of the current work environment and ensure that the intervention aligns with the organizational context and objectives, a qualitative approach (e.g., using interviews and focus groups) is considered suitable for capturing individual perceptions of working conditions within specific workplace situations (Nielsen et al., 2014). However, this requires rich data collection, usually done through face-to-face interactions, and thus moving such methods online (conducted via ICTs) might present some challenges. No previous studies have explored the challenges or opportunities that arise when moving mental health needs analysis methods online in remote working contexts. Conducting needs analysis online is a highly relevant concern, applicable not only during the COVID-19 pandemic, but also today as organizations are increasing their support for remote and hybrid work (ILO, 2021). Therefore, it is important to examine the opportunities and challenges associated with adapting mental health needs analysis activities to technology-mediated and/or hybrid contexts.

2.2. Technology-Mediated Communication Challenges and Opportunities

ICTs offer the possibility to interact with and gather information from remote employees so that those in different buildings, countries, and time zones can be included in organizational processes. Thus, ICTs can be seen as offering opportunities and resources that facilitate work processes, including mental health needs analysis. However, technology-mediated communication also has its challenges and demands, such as reduced capacity to transmit rich information (e.g., nonverbal cues in facial expression and voice tone) that is important for helping people understand what is being communicated (Sproull & Kiesler, 1986). Media richness theory (Daft & Lengel, 1986;

Trevino et al., 1987) offers a foundation for understanding the objective capabilities of communication media (Ishii et al., 2019). According to this theory, communication media are considered richer if they are more similar to face-to-face interaction, meaning that they allow the other person to be seen and heard, multiple information cues can be conveyed simultaneously and immediate feedback can be received. The richness of the media influences the level of task-technology fit (Dennis et al., 2001; Maruping & Agarwal, 2004) with richer media considered more suitable for tasks that involve nonroutine and ambiguous communication or for conveying emotion, where the costs of misunderstanding would be high. Fewer personal and social cues are transmitted through leaner media (e.g., texts or email), which, along with the greater propensity for misunderstanding, can impair the development of relationships and rapport (Sproull & Kiesler, 1986). In addition, less information and knowledge are shared overall, especially in text-based media such as e-mail, owing in part to the greater time involved in sending and receiving messages compared to face-to-face (Hightower & Sayeed, 1996; Mesmer-Magnus et al., 2011). From a media richness perspective, video calls (where facial expressions and gestures can be seen) offer significant opportunities for conveying rich information and so are considered the next best alternative to face-to-face interaction for equivocal or uncertain tasks.

However, more recent theorising has highlighted a key challenge of video calls relative to face-to-face interactions. Specifically, the level of cognitive load and sustained attention involved in the communication process are proposed to cause tiredness or “zoom fatigue” (Bennett et al., 2021). Riedl (2022) draws on media naturalness theory (Kock, 2005, 2009) to propose that zoom fatigue is caused by a lack of naturalness of video

conferencing media, which increases cognitive load. He argues that compared to more naturalistic face-to-face interaction, there is a lack of information (e.g., reduced body language, delays or lags in communication), causing increased compensatory cognitive effort, and at the same time information overload is experienced from excessive features and cues (e.g., a screen full of faces, chat messages, presentations, muting and unmuting the microphone). An additional contributor to fatigue may be the expenditure of more effort to transmit and receive signals in video compared to face-to-face meetings, such as using exaggerated nods or hand gestures in camera shots to indicate agreement (Bailenson, 2021). Moreover, increased fatigue and cognitive load have been found in video calls when participants are less familiar with each other or have lower group connectedness (Bennett et al., 2021). However, research focusing on cognitive load in video calls is still in its infancy, and its role in the success of task-technology adaptations has not been explored.

In addition, limited academic research exists on the suitability of video calls for conducting information gathering exercises within organizations, particularly in relation to sensitive areas of discussion, such as mental health. In face-to-face situations, although interviews have been found to elicit more sensitive topics in some studies (e.g., Kaplowitz, 2000; Kaplowitz & Hoehn, 2001), others have found that sensitive topics may be better revealed in focus groups where the interaction between participants can facilitate additional insights (e.g., Guest et al., 2017; Kitzinger, 1994; Stokes & Bergin, 2006). Some studies suggest that in an online environment, video calls may be more suitable for short, routine information-sharing interactions rather than meetings with more complex or ambiguous content (Denstadli, 2004; Lu & Peeta, 2009). This is

particularly relevant for meetings involving people that do not already know one another personally (Denstadli et al., 2012). However, there is also evidence that video calls may have some advantages for academic research interviews, as they allow interviewees more control over the timing and physical environment of the interview, which may encourage them to be more expressive (Gray et al., 2020; Mabragaña et al., 2013). This mixed evidence suggests that there may be different challenges and opportunities in different contexts and for different purposes. Little is known about the specific circumstances in which these challenges and opportunities might be experienced. For instance, in the context of mental health needs analysis, whether there are specific challenges and opportunities related to using ICTs, and whether there are differences depending on type of activity, are unknown.

2.3. Drivers of Technology Adaptation

When moving mental health needs analysis methods online, it is useful to understand to what extent adaptations to these methods are influenced by the challenges and opportunities experienced, and how this determines whether these adaptations are maintained over time. Adaptations can be seen as changes in how ICTs are used for accomplishing work tasks (DeSanctis & Poole, 1994) and are important because successful adaptation can ensure routinization and continued use of these technologies (Jasperson et al., 2005), as well as the productivity and effectiveness of those tasks (Massey & Montoya-Weiss, 2006).

Technology-mediated communication tends to be viewed as deficient and challenging compared to face-to-face interaction, but theories focusing on human agency and

adaptation note that acclimatisation to these deficiencies may occur over time. For example, Channel Expansion theory (Carlson & Zmud, 1999) highlights the roles of time and individual experience in perceptions of communication media, proposing that even objectively lean media can provide richer communication opportunities when there is greater familiarity with the communication channel, communication partners, the messaging topic, and organizational context. Over time, perceptions of richness increase, so more tasks might be considered appropriate (or less impaired) via ICTs, and thus, similarly, there may be a learning effect that facilitates the success of adaptations to mental health needs analysis methods.

Considering the factors that motivate adaptations in remote working situations, Thomas and Bostrom's (2010) model identifies five triggers for technology adaptation, which focus on the constraints and inadequacies of the technology itself, ICT skills, relationships, and the external and internal environments. This model recognises the role of context in motivating adaptations, with the most prevalent triggers related to external constraints (e.g., externally controlled changes in scope or timelines) and ICT inadequacies. The main focus of this model, and of the adaptation literature more generally, is on deficiencies or inadequacies that motivate adaptation. For example, in Zhou et al.'s (2024) temporal emotion-based model of technology adaptation, the trigger of adaptation relates to the negative emotions arising from deficiencies (i.e., a lack of task-technology fit). However, taking a more positive view, the concept of affordances (possibilities for action) highlights the opportunities provided by ICT to enhance communication, collaboration, and performance (e.g., Lane et al., 2024; Leonardi, 2011;

Thapa & Sein, 2018). This perspective focuses on the relative advantages of ICTs that might not be achievable through other means of communication.

An affordance refers to the potential use rather than actual use of technology (Volkoff & Strong, 2013). This literature is of relevance to the topic of technology adaptation, given the increasing interest in how the perceived potential of affordances is put into action by users, such as the effort they put into actualizing this potential (Du et al., 2019) and the facilitating conditions operating within the wider context (Thapa & Sein, 2018). The recognized role of context suggests that different affordances might be realized in different situations. Thus, key questions of interest are how specific technology affordances (or opportunities) in the context of mental health needs analysis influence task-technology adaptations, and what underlying motivational mechanisms drive the efforts of actors to actualize the affordances and maintain their effects in the long term.

The adaptation model of Zhou et al. (2024) highlights the role of positive emotions in driving longer-term use of technology; that is, those who are more satisfied with the adapted technology are more likely to continue using it. Building on the work of Beaudry and Pinsonneault (2005), their model uses well-being theory (relating to appraisal, coping, and emotions) to explain the process of adaptation but focuses on psychological processes rather than delineating the specific contextual resources or demands (i.e., features of the technology, task, or environment) that influence these emotions. Insights from the well-being literature focusing on these contextual features might shed some further light on the mechanisms driving the development of adaptations, particularly in the context of mental health needs analysis. Such theories can provide a deeper

understanding of the contextual features that constitute positive work and task design, which is important given that task-technology adaptations occur in the context of work. For example, this literature informs us that individuals strive to build and conserve valued resources to protect their well-being (Conservation of Resources; Hobfoll, 1998). Moreover, the JD-R theory (Bakker et al., 2023; Demerouti et al., 2001) highlights that work should be designed in such a way that provides a good balance between resources and demands so that employees feel engaged and have a reduced risk of exhaustion.

If the need to enhance resources and moderate demands can motivate the design of work more generally, then it also may influence the task-technology adaptations made to work processes. Therefore, framing the opportunities of online working as resources and the challenges as hindering demands may help provide new insight into the motivational mechanism underlying these adaptations. The success of these adaptations may depend on how the different opportunities and challenges of online mental health needs analysis interact. Although Thomas and Bostrom (2010) acknowledge that multiple co-occurring triggers can stimulate adaptations, their model does not reveal how different triggers might interact to do this, and so they call for greater focus on the simultaneous impact of multiple triggers in future research. Building on these ideas, we examine how the opportunities and challenges identified influence the adaptations made to mental health needs analysis activities within online and hybrid environments.

3. Description of Research Context

The current research was conducted as part of an EU-funded project (De Angelis et al, 2020) focused on assessing mental health needs and subsequently implementing and

evaluating mental health interventions in organizations. Within that project, a comprehensive qualitative approach to needs analysis and intervention planning was developed, in the form of a tool based on the JD-R model (Bakker et al., 2023; Bakker & Demerouti, 2007; Demerouti et al., 2001), so that demands and resources within the work environment could be mapped. This needs analysis tool was aimed at uncovering the needs for action to improve and conserve mental health in the organization and was designed in line with best practice principles (Nielsen & Christensen, 2021). Activities included (1) elicitation of needs via interviews with senior and middle managers, (2) elicitation of needs and mapping of demands and resources within employee focus groups, and (3) stakeholder meetings with organizational representatives in which a summary of the employee needs was presented and appropriate interventions to target the needs were discussed and planned. These activities were originally designed with guidelines for face-to-face interaction and included activities that were dyadic or "one-to-one" in nature (e.g., interviews with managers) and those that were "group-based," involving interactive tasks (e.g., employee focus groups, stakeholder meetings).

The project started in January 2020, approximately 2 months before the onset of COVID-19 restrictions in Europe. Therefore, although some of the initial relationship-building aspects of the project could be conducted face-to-face, the process of undertaking needs analysis and action planning had to be moved online and conducted either entirely via ICTs or, depending on changing restrictions, in a hybrid manner, with some participants face-to-face and others online. The project included five public organizations (including healthcare and education) and four small and medium enterprises, including technology, marketing, and manufacturing industries, located in five EU countries. The pool of

intervention sites was divided into two waves to facilitate the management and implementation of the various activities, with the first wave of organizations undertaking needs analysis between August and October 2020 and the second wave doing so between April and July 2021. In the first wave, restrictions meant that nearly all needs analysis activities had to take place online, but in the second wave, some activities could be conducted in a limited face-to-face or hybrid form.

4. Method

4.1. Sample and Procedure

The empirical data presented here are drawn from online focus group interviews with five teams of interventionists who conducted the needs analysis activities within organizations. These interviews were conducted by researchers from a separate team who were not involved in conducting the needs analysis. The purpose of the interviews was to evaluate the methods and processes used in the project, which included how interventionists had adapted the methods to the online/hybrid context. A total of nine focus groups were conducted, five after wave one needs analysis and action planning was completed and four after wave two, occurring in December 2020 and January 2021 and in October 2021, respectively. Interventionists were considered appropriate for answering the research questions because of their role in making adaptations to the methods used and their experience in applying these methods in different contexts during the course of the COVID-19 pandemic. The number of interventionists in each focus group varied from two to five, with eighteen interviewed in total. Thirteen interventionists had experience working in more than one organization during the project, with eight of them

having experience across both wave one and wave two. Consistent with university ethics procedures, they were informed about the research via an information sheet beforehand and provided written consent to participate.

The first two authors conducted the focus groups, which lasted between 1.5 and 2 hours and were recorded and transcribed. An explicitly interpretative and qualitative approach was used in the interviews to develop an in-depth understanding of interventionists' experiences. A semi structured focus group format was used, which allowed the interviewers to collect data on issues of interest while also allowing the participants to introduce and discuss topics they considered relevant (Kvale, 1996). The focus group interview guide asked questions on several broad issues, including gaining support from organizations, conducting the needs analysis (e.g., recruiting participants, conducting manager interviews and employee focus groups), and planning interventions (e.g., discussing/negotiating within the stakeholder meetings). We tried to limit bias in the interview by using open-ended questions as much as possible to ensure that participants were able to freely explore and reflect on their answers. Project documents (specifically the needs analysis method guidelines) and meeting minutes were consulted to gain additional insight into the adaptations made.

4.2. Analysis

The analytical methodology used was what Berg (2006) characterizes as qualitative template analysis, with the objective of identifying patterns in the data. This allows researchers to start their analysis with a template of a priori possible codes and themes drawn from theory (King, 2004). This methodology has been described as a more flexible

alternative, permitting researchers to tailor it to match their requirements and potential themes emerging from the data (Brooks et al., 2015). These analyses were conducted using NVivo 12 (QSR International, 2018). The initial template was based on the key components of the research questions, consisting of three broad themes: opportunities, challenges, and adaptations. Then interview transcripts were open coded to identify general themes in the data. This involved author one reading each transcript in detail and labelling quotes in different themes. The interpretation of the data was made by author one and then was checked via conversation with author two, who independently read and coded the transcripts. From this process, seven initial themes emerged (three opportunities, four challenges), along with two specific patterns identified as potentially valuable for explaining differences across the themes. These specific patterns or cross-cutting themes were "activity type where the theme is salient" and "contingencies affecting the theme."

After this initial coding, the themes were checked with the other coauthors (also interventionists), which resulted in further modifications. Specifically, the number of challenge themes increased by one, because we separated the subthemes "knowledge/information exchange" and "exchange of non-verbal cues" in response to interventionists' comments that the two involve different sets of skills. Additionally, the number of opportunities coded was reduced by one after we combined the subthemes "interaction possibilities for distant collaborators" and "time and effort efficiency" because the coauthors identified an overlap in content. Thus, the final template consists of two opportunities and five challenges (see Table 1).

5. Findings

A key finding is that although two opportunities and five challenges were identified in answer to research question 1, the extent to which they were experienced differed depending on the type of activity being undertaken and in relation to different situational contingencies. Table 1 outlines the main challenge and opportunity themes that arose from the data, the types of activities in which these themes were salient, the contingencies identified that affected the strength of the themes, and the adaptations that were developed. Table 2 provides quotes that illustrate the main themes (referred to as Q1-Q16 below). In what follows, we outline the challenges and opportunities that emerged in answer to research question 1, the activities in which these were salient, and how these factors interacted to inform the adaptations that were developed (research question 2).

5.1. Challenges

Five key challenges were identified relating to the challenges of relationship building, conveying and receiving nonverbal/emotional cues, sharing knowledge and information, increased cognitive load, and technical difficulties. Many of these challenges could be considered similar to the ICT deficiency triggers highlighted in Thomas and Bostrom's (2010) adaptation model, except cognitive load, which they do not mention. Conceptually, these challenges can be considered demands because they represent barriers to task completion and require sustained effort that drains energy and can lead to health impairment.

5.1.1. Relationship Building

Developing relationships and rapport with members of the organization (not only senior management, but also employees more widely) was disrupted by not being able to visit the organization in person. This issue was particularly important for gaining “buy-in” from management and employees to engage with the needs analysis and subsequent interventions. This challenge was particularly acute for wave 2 organizations, for which relationship building in the early stages before the needs analysis could be done only online, mostly via video calls and email.

Building relationships online took more time and effort, with gradual improvement occurring over successive meetings (Q1). Relationship and rapport building problems also were highlighted for interactive group activities via video meeting, especially when participants did not know one another or the topic of mental health was new to them. As COVID-19 restrictions were lifted, it was possible to resume some face-to-face contact. The benefit of this, even at later stages of the needs analysis, was valuable for relationship building as interventionists were able to meet other members of the organization onsite, enabling them to strengthen support for the project (Q2).

Main Theme	Sub-theme	Description	Activity where theme is salient	Contingencies affecting theme	Adaptations
Challenges	Relationship/ Rapport Building	Gaining support and 'buy-in' to engage with the project and its' different activities	Project negotiation and group activities	Pre-existing relationships, size & complexity of the organization, COVID-19 context	Enhanced communication at start of project (launch events), Ice breaker activities
	Non-Verbal & Emotional Cues	Ability to perceive body language and emotional cues that help facilitate interaction and understanding	Lack of cues especially problematic in group activities or where expression of empathy would be helpful	Technological infrastructure, COVID-19 context	Use of supported high richness tools. Participants on separate devices/ screens
	Knowledge/ Information Exchange	Ability to exchange, discuss and elaborate knowledge and information relating to the project	Impairment particularly evident in group activities where interaction and immediate feedback is required	Technological infrastructure, familiarity with mental health topic, familiarity with technology, learning, COVID-19 context	Sharing video & other information beforehand, use of collaboration tools, facilitation techniques, launch events.
	Cognitive Load	Amount of cognitive resources and effort required for an activity	Mostly problematic in group activities and especially hybrid group activities	Familiarity with technology, learning	Shorter activities/reduced content. Sharing information in advance. Allowing time for practice

	Technical Difficulties	Technical glitches, complexities and problems that hamper activities	Both dyadic and group – especially hybrid group activities	Technological infrastructure, familiarity with technology, learning	Allow time to practice with technology
Opportunities	Time/Effort Efficiency Gains	Organizing and making time to attend – reduced travel, ease to schedule & organize irrespective of physical location	Both dyadic and dissemination focused group activities	Familiarity with technology, size & complexity of the organization, pre-existing relationships	Continued use of video meetings for interviews and launch events
	Increased Openness	Comfort and safety of being in own home, external to organizational setting, feeling free to talk more openly	Mostly evident in dyadic activities	Familiarity with Mental Health topic, COVID-19 context, pre-existing relationships	Continued use of video meetings for interviews and launch events

Table 1: Study Findings - Main Themes and Cross-Cutting Themes

Subtheme	Q	Illustrative Quotes
Relationship/Rapport Building	1	"…what I saw is that during the… online meetings… I felt that the atmosphere was improving, you know, so there was more willingness to share with us their thoughts, reflections... and the initial resistance was quite absent at the end..." (I4)
	2	"… we could go to the company for the focus group and there we established another relationship with the human resources director and business partner, we went for lunch… But with the employees… they were very happy that we were going to the company to do it face-to-face… we were there three/four days, and we ate with them, they invited us to lunch… it was like a full experience." (I3)
Non-Verbal & Emotional Cues	3	"…the non-verbal is so important in focus groups. I find and it's harder to grasp that online and particularly because some people were not visible due to their phones or when you show the presentation people are smaller…it's just harder to manage …When you're in the room you sense things…You sense responses ..." (I1)
	4	"I think that another weakness of doing [online] interviews was that we didn't have any kind of feedback during the communication process and particularly when we made the interview by phone. Sometimes they had to talk about some delicate issues, for instance, the COVID-19 emergency and some of them, I remember had this strong emotional reaction… and having this kind of absence of real contact or empathy… it was a little bit unnatural, and a cold communication when we were speaking about something that required closer feedback and non-verbal communication..." (I4)
Knowledge/Information Exchange	5	"… a disadvantage was online focus groups, because … it's much more difficult to engage some people in discussions and you always have this sort of imbalance when some people talk too much … but … some of the members of the team don't talk at all...." (I2)
	6	"… this is a problem because the explanation online is very difficult, and also the [interactive knowledge sharing] exercise is difficult online." (I5)
	7	"…the discussion afterwards was not as smooth as I would have expected … they wrote a lot of things, but then when we tried to link it somehow to make some connections with the discussion [from] what they wrote, I was expecting more contribution, …discussion. … it's just harder to trigger an engaging discussion in this setting." (I2)

Cognitive Load	8	"[the meeting took] three hours, yeah, …we planned … two hours…[and] thought that's more than enough time… to present results, say what we're going to do next time. But yeah, it was more than three hours, and we were like, Oh my!... this is so long and so draining." (I1)
	9	"…in almost all the focus groups …some participants were online. So that was a bit difficult to manage …So, we had to take a computer and put it there, and the computer was like another one in the room… and so one of us had to be all the time looking at that..." (I3)
Technical Difficulties	10	"In every focus group we had one or two people on the phone or the connection was bad on the phone, or the sound quality was bad, so we had one or two people in every focus group that couldn't really participate, especially with the [interactive knowledge sharing] exercise." (I1)
	11	"I think in general all [manager interviews] went well. Just in a few cases, there were some problems with some persons having trouble in accessing [the meeting platform] or having technical issues." (I4)
Time/Effort Efficiency Gains	12	"…the pros are mostly related to the organizational aspects because you can organize and manage everything in a faster, smarter way." (I4)
	13	"…especially for the interviews because the employees of [Company] are based across the whole country, they actually encouraged us to do it online, so they didn't have to travel." (I1)
Increased Openness	14	"…my very first interview was with a coordinator from [Xgroup] and he just started rolling a cigarette during the interview. And, you know… in the university that wouldn't be possible, but of course … it's his home environment, he feels at home….and, you know, he's easily talkable then." (I1)
	15	"I think it works … because they were comfortable in their houses. They can talk about their feelings…" (I3)
	16	"So they were all from the [Y] department, but they were colleagues and some were friends and they… I feel that there was like a good relationship between them, and they can… talk with openness and trust." (I3)

Table 2: Illustrative Quotes for Sub-Themes

Key: I1 = Intervention team 1; I2 = Intervention team 2; I3 = Intervention team 3; I4 = Intervention team 4; I5 = Intervention team 5.

5.1.2. Non-Verbal & Emotional Cues

Even though video meetings are considered a relatively rich medium, a specific challenge highlighted was the difficulty of not being able to see emotional and nonverbal cues clearly via video. This was particularly difficult in group activities when attention was divided across several individuals, when images were very small, or when participants turned off their webcams. Several examples of the importance of nonverbal cues were highlighted by interventionists, including for sensing that an individual wishes to speak or their body language indicates discomfort or disagreement. The ability to perceive emotional cues or responses to information presented was impaired, which could hamper the facilitation and flow of the activity (Q3).

In addition, given the subject of mental health and the context of the COVID-19 pandemic, the ability to perceive emotional cues was considered particularly important. For instance, when some participants expressed emotions, the interventionists felt less able to respond appropriately with empathy via ICTs, making the communications seem less natural and somewhat cold (Q4).

5.1.3. Knowledge and Information Sharing

Interventionists noted several difficulties with knowledge and information sharing, even via video-based collaborative platforms. Using ICTs was more constrained and cumbersome for group activities than for dyadic activities. For example, engaging all participants in group discussion was especially difficult. Several interventionists mentioned there was greater imbalance in the contributions of participants when using

ICTs, with some talking too much and others not speaking at all, especially in larger groups, for example, 10 or more people (Q5).

Challenges also were identified when discussion and elaboration of information was required. Interactive group exercises, such as collaboratively mapping the job demands and resources that occur at different levels within the organization, were more onerous online compared to how they would have been face-to-face (Q6). Some platforms and tools facilitated basic information exchange, such as by enabling "post-it" brainstorming exercises. However, the discussion and elaboration required during this activity was more restricted, making it more difficult to gain the expected depth of contribution from the group (Q7).

5.1.4. Cognitive Load

Although group activities could take place via collaborative platforms, the process of information exchange and discussion often exceeded the foreseen time allocated because of difficulties coordinating turn-taking and interaction, which can be very tiring and draining for participants and interventionists alike. For example, it could take up to 1 hour longer to complete the set of activities originally planned for a 2-hour face-to-face focus group (Q8). Cognitive load also could be a problem when attention had to be split across multiple foci. Hybrid activities, with some people online and others face-to-face, were particularly difficult to facilitate from a cognitive load perspective, owing to the additional activity of monitoring the online participants while at the same time interacting with those in the physical room (Q9). These findings are consistent with theories about

zoom fatigue (e.g., Riedl, 2022), but, perhaps unexpectedly, the effect is found to be exacerbated rather than eased when mixed with some face-to-face interaction.

5.1.5. Technical Difficulties

Several technical difficulties when conducting needs analysis activities via collaborative platforms and video calls were highlighted. These were related to connection or sound problems or using ICTs that were less suitable for engagement in interactive workshops (e.g., mobile phones rather than large computer screens or using platforms where the facilitator is unable to see the participants while presenting) (Q10). Other issues were related to having to operate ICTs that participants were less familiar with or had problems accessing due to organizational firewalls or preferred online platforms. Such technical difficulties caused delays in starting and finishing sessions. Hybrid group activities were particularly challenging, as there were more difficulties seeing and hearing people when some were collocated but others were online. Comparatively, there were fewer technical difficulties reported for dyadic activities (Q11).

5.2. Opportunities

Two key opportunities were identified in relation to conducting ICT-mediated needs analysis: time/effort efficiency gains and increased openness. These can be considered resources because they facilitated the achievement of mental health needs analysis goals, enhanced learning, and reduced the demands of needs analysis activities. Although resources have not previously been considered drivers of task-technology adaptations, their positive influence can be seen in the following examples.

5.2.1. Time/Effort Efficiency Gains

Interventionists noted that organizing online video meetings and interviews was easier and more efficient than organizing face-to-face meetings. Such activities could fit more easily into busy participant schedules, as no travel time was required. These efficiency gains were helpful for organizing dyadic meetings and some large group meetings, particularly launch events at the start of the project, and were considered particularly helpful when numerous separate meetings needed to be arranged and when meetings were spread out over separate days or different locations, which otherwise would have required significant travel time (Q12-Q13).

5.2.1. Increased Openness

Interventionists felt that participants were comfortable and relaxed talking from the comfort of their own home and experienced greater freedom to talk more openly than they might have done otherwise (Q14-Q15). Given the subject matter relating to mental health and the demands of work, participants may have felt safer to share their views and feelings away from organizational premises and in an environment over which they felt more control. This openness was experienced mostly in dyadic interview situations, similar to benefits found for online research interviews (Gray et al., 2020). Increased openness also could occur in group activities if participants already had a good relationship with one another, although only one example of this was mentioned (Q16).

5.3. Type of Activity

A cross-cutting theme emerged that related to the type of activity in which the opportunities and challenges were most salient (see Table 1). Nearly all the opportunities and resources identified occurred in dyadic "one-to-one" activities. For instance, the interviews with managers did not appear to be detrimentally affected by being conducted via video call, and the advantages seemed to outweigh the negatives. In contrast, the demands and challenges identified occurred mostly in group activities (e.g., online focus groups), especially in hybrid settings. The relationship building challenge also was salient during project negotiation activities, such as when trying to gain access to parts of the organization.

5.4. Contingencies

The findings also reveal that the opportunities and challenges experienced by the interventionists could be exacerbated or ameliorated by contingencies within the context. Specifically, these contingencies were the COVID-19 pandemic, the technology infrastructure and size/complexity of the organization, preexisting relationships, familiarity with mental health topics and ICTs, and learning over time (see Table 1). These contingencies also influenced adaptations through their impact on the challenges and opportunities experienced. Many of the contingencies that we describe below bear some resemblance to the triggers that Thomas and Bostrom (2010) identified relating to external and internal environment relationships and ICT skills.

5.4.1. COVID-19 Context

The changing COVID-19 restrictions were the primary drivers affecting how the needs analysis activities were adapted, and determining the possibility of conducting any of the activities face-to-face as originally planned. Restrictions also varied by organization, as there were instances within the same country where face-to-face focus groups could be conducted in some companies but still not advised in others, such as medical facilities in which infection rates were higher. Hybrid interactions, with some participants online and others together in a room, were possible sometimes, but these hybrid practices often took different forms and configurations depending on restrictions in different countries and organizations. For example, even where face-to-face group activities could be conducted, social distancing requirements meant that participants had to remain apart from each other, which made interaction more cumbersome and limited the number who could be together within a shared space. In some instances, participants at the organizational site were allowed to be in one room but the facilitators had to be online. In other hybrid configurations, some participants were collocated while others attended separately online, for example, one interventionist in a room with a few participants with other interventionists and participants online. Additional difficulties occurred where restrictions stipulated the wearing of face coverings in shared spaces, which made it more difficult to hear people, read nonverbal facial expressions, or know which person was talking. Thus, the COVID-19 context exacerbated some of the challenges of using ICT, such as the extent to which nonverbal communication and knowledge sharing were experienced in online and hybrid group activities. It also affected the extent to which relationship building and gaining buy-in could be achieved for any new organizations

joining the project, owing to the inability to supplement online methods with face-to-face communication.

A positive impact of the COVID-19 context was an increased familiarity with mental health concepts and willingness to talk more openly about mental health, related to increased emphasis on this topic during the pandemic. This enhanced the increased openness opportunity. Thus, a contingency such as COVID-19 could operate as both a demand and a resource.

5.4.2. Organizational Technological Infrastructure

Organizations had different levels of sophistication in terms of technological infrastructure (e.g., whether reliable wi-fi was available or certain platforms were supported). This influenced adaptations by determining whether richer video-based ICTs that facilitated perception of nonverbal cues or knowledge sharing could be used, and also influenced the extent to which the challenge of technical difficulties was experienced.

5.4.3. Size and Complexity of the Organization

The size and complexity of the organization had an impact on both challenges and opportunities, specifically relationship building within the organization, knowledge sharing, and time-efficiency gains when organizing activities. For instance, the efficiency gains from conducting activities online were especially significant for organizations spread across multiple locations. However, gaining commitment from potential participants to take part in the project was more difficult in larger and more complex

organizations, which could counteract the time/effort efficiency gains experienced. Additionally, when organizations were large and complex, participants in group activities also were less likely to know one another, which could influence the quality of knowledge and information exchange in sessions. Therefore, in large/complex organizations, adaptations to online methods were less likely to be maintained once it was possible to conduct activities face-to-face, except in dyadic activities, in which the benefits of efficiency gains could outweigh the negative effects.

5.4.4. Preexisting Relationships

Having a preexisting relationship with key organizational leaders and stakeholders helped mitigate demands related to impaired relationship building when using ICTs. Preexisting relationships developed face-to-face (prepandemic) facilitated commitment to the project and its activities, which made organizing activities much easier so that resources like time/effort efficiency gains were more likely to be experienced. Preexisting relationships among participants also could affect the openness with which participants spoke in group sessions, sometimes positively (if relations were good) but also sometimes negatively (e.g., in the presence of more senior staff). Overall, adaptations were more likely to facilitate the experience of opportunities and resources and more likely to reduce challenges and demands if there were preexisting positive relationships.

5.4.5. Familiarity with Mental Health Topics

Different levels of familiarity with mental health concepts were seen across work groups. For instance, it was felt that for those working in a more technical context (e.g.,

manufacturing shopfloor), mental health concepts were discussed only rarely and considered rather abstract and difficult to talk about, whereas for those working in settings where mental health was addressed more openly (e.g., healthcare), there was greater comfort discussing such topics. This contingency affected the extent of openness experienced, as well as information and knowledge sharing. This contingency represents task-related knowledge that is an important resource for performing mental health needs analysis, and a lack of this resource influenced adaptations aimed at increasing mental health knowledge among participants. This issue of task-related knowledge is not mentioned as a trigger of adaptations in Thomas and Bostrom's (2010) model, however.

5.4.6. Familiarity with Technology

Another key contingency was related to the familiarity of different job roles with ICTs. For instance, participants in teaching or research roles were more familiar with communications technologies compared to participants in administrative roles. Furthermore, those in jobs that were not desk-based (e.g., medical or manufacturing jobs) had more difficulty accessing the online activities. This contingency is similar to the ICT skills trigger in Thomas and Bostrom's (2010) model. We found that this contingency affected the time/effort efficiency gains made, because delays were caused by lack of familiarity with the technology. In addition, those who had more experience with ICTs demonstrated fewer barriers to sharing information in sessions. Lack of familiarity with ICTs also exacerbated the challenges of technical difficulties and cognitive load owing to the need to learn new methods of communicating.

5.4.7. Learning Over Time

Learning and acclimatising to technology mediation occurred over time. Consistent with Channel Expansion Theory (Carlson & Zmud, 1999), there was some gain in familiarity over time, which allowed some of the other demands to be less pronounced. For instance, there were fewer difficulties when conducting activities later in the pandemic (with group 2) as both interventionists and participants were more familiar with using ICTs for such purposes. Interventionists were better able to cope with the challenge of technical difficulties, as they had more knowledge about what to do if something did not go according to plan and what backup strategy to put in place. They also learned how to enhance nonverbal cues and information exchange more effectively through the development of adaptations (which we turn to next). Learning over time can be seen as a resource that helped reduce the demands and challenges experienced.

5.5. Adaptations

To answer research question 2 (how the opportunities and challenges inform adaptations), the interview transcripts and project documents—specifically, the updated needs analysis methods guidelines and meeting minutes—were scrutinised. This allowed the researchers to discover what actions interventionists put in place to mitigate the demands and benefit from the resources offered by ICT mediation, as well as what contextual factors informed the success of these adaptations. Six core adaptations to mental health needs analysis methods were made during the course of the project: (1) using rich collaboration tools (e.g., video meetings and collaborative platforms that support “post-it” activities), (2) allowing time for practice of tools at the start of sessions, (3) sharing meeting/workshop content before activities, (4) shortening activities/reducing content, (5) introducing novel

icebreaker activities, and (6) using extra facilitation techniques (using names/using chat facilities) to encourage contribution. Although COVID-19 was the main driver for using ICTs in general, the specific adaptations made were informed by an interaction between the challenges and resources of using ICTs and the different contingencies that affected their strength. Thus, this analysis helps examine the interaction between different triggers. As described next, the adaptations were focused primarily on reducing the challenges and demands associated with ICT mediation in different circumstances, thereby reducing their draining effect.

The challenges and demands relating to nonverbal/emotional cues and knowledge/information exchange, in addition to the technology infrastructure contingency, drove choices about which specific *rich collaboration tools* to use. For instance, video meetings helped ameliorate the challenge of perceiving nonverbal/emotional cues, and specific collaboration platforms that allowed “post-it” activities helped enhance knowledge/information exchange within group sessions. The interaction of the COVID-19 contingency with the nonverbal cue challenge drove more nuanced adaptations focused on how the tools should be used (e.g., having people at separate camera screens rather than a group of people on the same camera shot in a shared space where masks needed to be worn). Another specific adaptation to address the challenge of information dissemination within an organization was to use large-scale video meetings for project launch events before the start of needs analysis activities. These launch events aimed primarily to convey information about the project to employees but still allowed some interaction (for asking/answering questions).

Allowing time for practice was an adaptation to the methods influenced by the challenges of technical difficulties and cognitive load. This adaptation was especially beneficial when specific contingencies were in operation (e.g., when participants were less familiar with technology or when the technology infrastructure allowed the use of only certain tools). The contingency of learning over time reduced the need for this adaptation over the course of the project, with less time needed for familiarisation by wave 2. *Sharing content before activities* was an adaptation aimed at reducing the challenges related to knowledge/information exchange and cognitive load within interactive sessions. When the contingency of lack of familiarity with mental health topics was also present, then sharing content beforehand was felt to be particularly necessary. This adaptation often went hand in hand with the adaptation of having *shorter activities/reduced content* within activities, which also aimed to reduce cognitive load within meetings. This adaptation was required particularly when participants were less familiar with the technology (where cognitive load might be exacerbated), although the impact of this contingency was diminished over time, as participants became more familiar with video and collaborative ICTs by the time wave 2 activities were started.

Icebreakers (e.g., participants choosing an object at their location that tells a story about themselves) was an adaptation to the methods added to help build rapport/relationships at the start of ICT-mediated interactive group activities. Although icebreakers might be used face-to-face, the challenge of relationship building via ICTs drove a greater focus on this type of adaptation. Certain contingencies increased the necessity of this adaptation, such as when the organization was particularly large which meant that pre-existing relationships between participants was less likely. Another adaptation often present

alongside icebreakers was *extra facilitation techniques*, such as asking direct questions to individual participants and using chat tools to get input from all participants. This adaptation was directed at trying to mitigate the knowledge/information exchange challenges within group exercises but was not necessary for dyadic activities.

The adaptations described for group activities often had only partial success on their own, and multiple adaptations were required to deal with the interaction of the different challenges and contingencies experienced. Although these adaptations facilitated group interactions to a reasonable extent, these activities still drained energy when conducted online, and so face-to-face methods remained the preferred format for group activities and were returned to when possible toward the end of COVID-19 restrictions. However, attempting to return only partially to face-to-face activities (e.g., hybrid group exercises) tended to exacerbate some demands, such as cognitive load, owing to the split attention required across multiple modalities and features. Thus, fully online adaptations were more successful and less draining than hybrid versions.

The continued use of adaptations for needs analysis activities after COVID-19 restrictions were lifted was driven by the opportunities and resources that facilitated the completion of specific tasks. In particular, the opportunities associated with the use of video meetings (i.e., “time-effort efficiency gains” and “increased openness”) facilitated the completion of dyadic activities (specifically management interviews), and the resources offered by this adaptation outweighed the demands, motivating its continued use. This adaptation was especially beneficial when certain contingencies were operating (i.e., in large, dispersed organizations and where people were familiar with using video

meeting technology) and so this adaptation remained in place even after COVID-19 restrictions were lifted, especially in these circumstances. The time-effort efficiency resource also enabled large video launch meetings to be successful as a long-term adaptation for disseminating information at the start of the project within an organization. Again, this was especially beneficial in large organizations, where arranging a face-to-face event might be more difficult.

6. Discussion

This study set out to examine the challenges and opportunities related to conducting mental health needs analysis activities in online and hybrid settings, and also to evaluate the influence of the challenges and opportunities on driving adaptations to these activities. Mental health needs analysis is of interest because it requires the collection of rich in-depth information from representatives at all levels of the organization, including those working remotely. In line with the principles of JD-R theory (Bakker et al., 2023; Demerouti et al., 2001), work processes such as these should be conducted using methods that provide adequate resources and do not put excessive demands on the interventionists leading these activities or the participants taking part in them.

*6.1. Theoretical Contribution*s

We contribute to the IS literature by combining technology mediation, adaptation, affordances, and well-being literatures to provide additional insight into the drivers of task-technology adaptations. With opportunities, challenges, and contingencies conceptualized as demands and resources that interact, we provide an explanation for

why adaptations are triggered in different circumstances, and which are likely to be successful long-term. In so doing, we also contribute to the well-being literature, and specifically the mental health interventions literature, by providing further evidence and explanations for best practices in conducting mental health needs analysis activities online.

In the context of remote work during the COVID-19 pandemic, we found more challenges and demands than opportunities and resources when conducting mental health needs analysis, but the degree to which these were experienced depended on the specific type of activity and on various situational contingencies. Group activities in particular were reported to face the most challenges and demands owing to difficulties building rapport within sessions, impaired perception of nonverbal and emotional cues, problems with knowledge and information sharing, cognitive load, and technical difficulties. Despite incorporating some face-to-face interaction, group activities conducted in a hybrid fashion were considered even more demanding and draining owing to the burden of increased cognitive load and fatigue when trying to facilitate activities partly in person and partly online. Situational contingencies also could increase or reduce the impact of these challenges.

In contrast, dyadic (one-to-one) activities appear to be less negatively affected by these challenges and even offer opportunities and resources not present when completing these activities face-to-face, including time and effort efficiency gains and increased openness. Although similar opportunities have been found for research interviews via video call (Gray et al., 2020; Mabragaña et al., 2013), the current study identifies these as

particularly important resources that facilitate the completion of mental health needs analysis within organizations. The only type of group activity that had more advantages than disadvantages was the information dissemination launch events at the start of the project, which required limited interaction. This activity enabled greater reach and convenience compared to a face-to-face, location-specific presentation. This was especially so when the contingency of a large organization was also in operation.

Our study also sought to understand how the challenges and opportunities informed task-technology adaptations within mental health needs analysis activities in online/hybrid settings. Similar to ideas expressed in Channel Expansion Theory (Carlson & Zmud, 1999), we found that the perceptions and experience of communication channels are influenced by situational contingencies (e.g., familiarity with technology and topic). However, our study goes further by examining how these contingencies interact with the challenges and opportunities to influence task-technology adaptations. Our analysis makes further contributions to the adaptation literature by identifying triggers not previously included in Thomas and Bostrom's (2010) adaptation model, such as cognitive load and familiarity with task knowledge. Moreover, whereas the adaptation literature tends to focus on deficiencies (or demands), we have widened this focus by also exploring opportunities and resources that influence adaptations and their continued maintenance. Specifically, we identified increased openness as well as time and efficiency gains, which led to the continuation of online video interviews and launch events even after face-to-face interactions were possible again. Indeed, we found that only those adaptations that enhanced resources and built on opportunities continued longer term.

Relating this finding to the JD-R model (Bakker et al., 2023; Demerouti et al., 2001) helps illuminate a mechanism for this success. This model suggests that resources instigate a motivational health-enhancing pathway, leading to engagement and commitment, whereas demands are related to a health-impairing pathway, leading to strain (Bakker et al., 2023). Applying this logic to adaptation, the enhanced resources offered by moving to video calls for dyadic interviews and large-scale launch events increased the motivation of interventionists to continue using these methods postpandemic. This rationale also could contribute to the affordances literature by providing new insight into the motivations that facilitate the move from affordance potential to actualisation, as users strive to obtain and conserve resources to enhance and protect their mental well-being.

Most of the adaptations were aimed at reducing the impact of the challenges and demands identified within group activities. These had only partial success, as often multiple challenges and demands needed to be addressed at once. Using the JD-R model allows for the possibility of interactive relationships, such that resources and demands exhibit an interactive relationship wherein specific resources have the potential to mitigate the adverse effects of specific demands (Bakker et al., 2023). In line with Thomas and Bostrom's (2010) call to examine the simultaneous influence of multiple triggers, our analysis highlights the interactions between key contingencies and the challenges and opportunities related to ICT use. For instance, although the external factor of COVID-19 restrictions was the main trigger for moving to online methods, the specific adaptations made—and their continued success—were influenced by the interaction between different challenges, opportunities, and contingencies. Applying insights from JD-R

theory (Bakker et al., 2023; Demerouti et al., 2001) provides some further insight into why adaptations aimed at reducing demands were less successful. As mentioned, demands are associated with a pathway that impairs well-being, resulting in strain (Demerouti et al., 2001). Thus, although resources have the potential to mitigate the adverse effects of demands, adaptations to alleviate these hindering demands were only able to reduce impairment rather than promote more positive effects of motivation and long-term commitment toward the adaptations made.

6.2. Practical Implications

In terms of contributions to practice, our findings imply that for future mental health needs analysis conducted in organizations where employees are working remotely, large information dissemination launch events and dyadic interviews on video call could be recommended. Face-to-face methods may be preferred for interactive group events where knowledge and information exchange and perception of nonverbal cues or emotional cues are important. However, in cases where interactive group activities need to be conducted online (e.g., if a large number of employees are working remotely), our study highlights that these can be less demanding if facilitators break tasks into less cognitively demanding chunks, conduct icebreaker activities to build rapport, allow time for familiarization with the ICT, and ensure that participants have time for pre-event preparation (e.g., watching videos, prereading reports). For IS practitioners, the findings provide insights to the design and use of information and communication systems. Understanding how the different demands and opportunities of ICTs interact with different contingencies (e.g., company size, task familiarity) can inform the design of

task-technology adaptations in different circumstances. The resource-based nature of more successful adaptations is also informative for IS practitioners, underscoring the importance of paying attention to enhancing technology resources rather than focusing attention solely on mitigating technology demands.

6.3. Strengths and Limitations

Some key strengths of this study include its use of data drawn from interventionists' experiences of conducting mental health needs analysis in nine different organizations across five EU countries. Our study also combines insights from IS and well-being theories to provide new insight into the factors influencing task-technology adaptations and their longevity. Nonetheless, our findings need to be considered in light of several limitations of the study. For instance, at the time of the study, hybrid events (and specific technology to support hybrid meetings) were rare, and thus the findings related to hybrid activities need to be taken with caution. The specific way in which the hybrid events were conducted also varied among interventionists and organizations, depending on facilities available and restrictions applied in different countries and organizations, so it was difficult to compare these events. In addition, the study took place during lockdown periods of the COVID-19 pandemic, when working from home for many employees was required on short notice and was not a voluntary action to balance work and family life (Tuzovic & Kabadayi, 2021). In addition, certain job demands may have become more pressing during the pandemic (Demerouti & Bakker, 2023). Consequently, our findings might differ from previous studies and future ones where online or hybrid activities are purposefully planned. Nevertheless, given the increase in remote working since the

pandemic, we expect the need for online methods to continue and expect that the findings related to resource-based adaptations will apply to postpandemic contexts. Another limitation is that we were unable to interview organizational representatives and so do not have information about how employees and managers perceived the online needs analysis activities, which possibly could have introduced bias. However, the interventionists were the most appropriate source of information about the adaptations made and comparisons across different contexts and time, which was the main goal of this research.

6.4. Conclusion and Directions for Future Research

Our study contributes to theory and practice by highlighting key opportunities and challenges when conducting information gathering activities within organizations on sensitive topics such as mental health needs analysis using ICTs and describing how the interaction between these informs adaptations. By combining the IS and well-being literature, the study highlights additional resources and contingencies that need to be considered, which could help extend theorising and practice in relation to task-technology adaptations. Future research could extend this work by examining whether different configurations of hybrid and online activities (postpandemic) affect the challenges and opportunities experienced when using technology that specifically supports hybrid events. Examining how different challenges and opportunities inform future adaptations would be another fruitful avenue of research.

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