



Understanding Cyber Hostility, Gossip, Exclusion, and Social Support in Remote and Hybrid Work Settings: Benefits and Challenges of Remote Work

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Abstract

Workplace incivility—low-intensity deviant behavior that violates norms of mutual respect—harms workers, though social support can alleviate this. Both incivility and support-seeking are shaped by the communication environment, which has been profoundly altered by remote and hybrid work, yet the outcomes of these changes are not well understood. Using surveys and interviews, we investigated USA remote and hybrid workers’ experiences with three types of cyber incivility (hostility, gossip, and exclusion), and follow-up support. We found cyber incivility experiences are more common among workers who spend more time at the office, and among women than men. We also discover that digital communication tools reduce some harms but exacerbate others, and that support-seeking is effective but harder to access remotely. Based on these findings, we propose implications for digital communication tools and policies to reduce cyber incivility and improve support access, fostering a more respectful and supportive remote work environment.

CCS Concepts

• Human-centered computing → Empirical studies in HCI.

Keywords

remote work, hybrid work, incivility, peer support, gender

ACM Reference Format:

Jack Jamieson, Wataru Akahori, and Naomi Yamashita. 2025. Understanding Cyber Hostility, Gossip, Exclusion, and Social Support in Remote and Hybrid Work Settings: Benefits and Challenges of Remote Work. In *CHI Conference on Human Factors in Computing Systems (CHI '25)*, April 26–May 01, 2025, Yokohama, Japan. ACM, New York, NY, USA, 23 pages. <https://doi.org/10.1145/3706598.3713684>

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CHI '25, Yokohama, Japan

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ACM ISBN 979-8-4007-1394-1/25/04

<https://doi.org/10.1145/3706598.3713684>

1 Introduction

Workplace communication is dramatically changing due to increases in remote and hybrid work. These changes have created new challenges and opportunities for HCI researchers seeking to understand and support emerging work practices [3, 8, 20, 22, 23, 77]. One of the most significant of these challenges is difficulty communicating among coworkers due to not being in the same workspace and relying on imperfect remote communication tools [61, 62, 114]. Prior research has asserted that increased usage of digital communications at work may result in increased incivility [39], due to decreased media richness [29], which may decrease personal connection [12] and encourage disinhibition [138]. These claims are partially validated by empirical evidence that workplace hostility may have increased alongside the expansion of remote work in the wake of the pandemic [60], however other studies contradict or complicate this result [16, 31], so there is a need for further study.

This paper investigates factors contributing to three dimensions of cyber-incivility (hostility, exclusion, and gossip) in new remote and hybrid arrangements, their effects on well-being, and challenges and opportunities for social support after experiencing these forms of cyber incivility. Workplace incivility is defined as “low-intensity deviant behavior with ambiguous intent to harm the target, in violation of workplace norms for mutual respect” [7]. Cyber incivility refers to workplace incivility that occurs via digital communication tools [83, 125]. In-person incivility has been well documented as harmful to both job performance [108, 125] and well-being [69, 74, 103, 135]. While most research suggests cyber incivility is generally less harmful than in-person incivility [53, 72, 105], it still causes affective and physical distress [113, 125] and decreases job satisfaction [83, 154]. Additionally, incivility can evolve into more intense behaviors [80, 81, 101], but its relative subtlety makes it difficult to identify and address promptly. This challenge may be compounded as remote and hybrid work prompt new cyber incivility behaviors [142], creating a need for new analyses.

Not only can remote work influence the conditions that give rise to various types of incivility, but it may also affect opportunities for support. After experiencing stressful work experiences, support from work colleagues and other peers can provide relief [13, 65, 73, 123]. However, working remotely can make it harder to instigate informal communications to seek support [146] and workers may regard digital communications as less suitable for support-seeking than in-person communications [65]. To that end,

as well as investigating factors that give rise to specific types of cyber incivility, we investigate how remote workers respond to cyber incivility incidents, paying particular attention to social support.

We surveyed and interviewed remote and hybrid workers in the USA to understand their experiences around cyber incivility during work. Specifically, we investigate the relationship between working remotely and experiencing different types of cyber incivility, which types of cyber incivility are most harmful, and whether remote/hybrid workers seek or do not seek social support after impactful cyber incivility incidents. First, we conducted a preliminary survey of 965 remote and hybrid workers to identify factors associated with how frequently they experience cyber hostility, gossip, and exclusion. We then conducted a more extensive main survey of 250 respondents who indicated they frequently experience cyber incivility. During the main survey, participants described their experiences with cyber incivility in more detail, including their motivations and experiences regarding seeking or not seeking social support. Finally, we interviewed 20 participants about their experiences in more depth. We analyzed the data using a mixed methods approach. Regression models and summary statistics revealed quantitative patterns, and qualitative analyses of open-ended survey questions and interviews revealed further details and helped explain the quantitative results.

The results identified that people who work fully remotely generally experience less frequent cyber hostility, gossip, and exclusion than those who split time between home and the office and that women experience more of these behaviors than men. Participants described ways that remote work both positively and negatively influences the frequency and impact of these experiences. Our analysis also revealed that exclusion, more than other forms of cyber incivility, has a clearly negative relationship with well-being. Lastly, our results showed that support-seeking after experiencing cyber incivility is perceived to be effective, but remote work makes it harder to access support for various reasons. Based on these results, we discuss how to promote aspects of remote work that could insulate workers from harmful forms of cyber incivility while also supporting opportunities for better social support in remote workplaces.

This paper makes the following key contributions. First, we provide new empirical evidence on the prevalence and impact of specific types of cyber incivility in remote and hybrid work settings, highlighting how reliance on digital communication both insulates against some harms and exacerbates others. Second, we advance the understanding of how different types of cyber incivility affect workers' well-being, offering insights that can guide future research toward the most pressing issues. Third, we propose implications for digital communication tools and workplace policies that can mitigate cyber incivility and enhance access to social support, ultimately fostering a more supportive and respectful remote work environment.

2 Background

2.1 Workplace incivility

Workplace incivility refers to low-intensity deviant behaviors characterized by ambiguous intent to harm [7]. This ambiguity can make it challenging to identify and address, compared to more

overt forms of aggression. Workplace incivility appears to be ubiquitous, with some research asserting that half of workers experience incivility weekly [116]. According to prior research, workers' likelihood of being targeted by incivility is influenced by demographics, personality dispositions, behaviors at work, and situational factors such as workplace culture [124]. Cortina [25] proposed that workplace incivility can be a veiled manifestation of sexism and racism. Most research has shown that women experience more frequent incivility than men [15, 25, 132]. For example, women are more frequently targeted with hostility, exclusion and undermining behaviors, which can hinder their professional advancement and limit support networks [123].

Different forms of incivility may arise for different reasons and have different effects. Although Cortina et al.'s unidimensional scale [27] is commonly used, Martin and Hine [92] identified that a multidimensional scale (hostility, gossip, exclusion, and privacy invasion) performed better and that different types of incivility have different qualities and impacts. For example, hostility generally refers to direct acts of aggression or rudeness, such as raising one's voice [92], and is related to relative power, with supervisor hostility being more common a distressing than peer or subordinate hostility [127]. Gossip has been identified to have both negative and positive forms, both of which are predicted by frequent inter-group communications, such as during collaborations [37]. Exclusion refers to being dismissed, ignored, or left out of decisions or conversations. It may be motivated by scorn for personality or identity characteristics or as retaliation for norm-violating behaviors [56]. Further, it appears to be moderated by distrust [126]. Exclusion is closely related to social support since successful exclusion can reduce access to support, but perceived social support may ward off ostracism in the first place [56]. Unsurprisingly, these forms of incivility interact with each other. For example, being subject to negative gossip may lead to future exclusion or ostracism [37].

Although some prior research has considered both in-person and cyber incivility, the vast majority focuses on contexts where workers are co-located in an office or other workspace. Remote and Hybrid work styles have increased significantly since the onset of the COVID-19 pandemic, dramatically shifting workplace relationships. Thus, there is a need to better understand incivility in remote and hybrid contexts.

2.1.1 Influences of remote and hybrid work. Prior research has asserted that remote and hybrid work may increase the occurrence of workplace incivility [39, 109, 147]. Much of this literature draws on Suler's [138] theory of the online disinhibition effect, which posits that individuals are more likely to engage in behavior online that they would avoid in person, including acts of hostility or rudeness. In fact, some measures of cyber incivility explicitly refer to behaviors that "he/she wouldn't say to you face-to-face" [83]. One cause of this effect is low media richness [29] compared to in-person communication, which may obscure tone and emotional intent. This can result in a diminished sense of personal connection, more impulsive and informal responses, and more misunderstandings [12]. In the absence of in-person cues, norm violations may be attributed to other signals, such as taking too long to reply to a

message [67], which could result in misunderstandings such as interpreting a delayed response as intentional rather than situational (e.g., multitasking).

These challenges underscore the need to better understand how remote work environments relate to the prevalence and forms of cyber incivility. Empirical research has had mixed results about the relationship between remote work and incivility. A 2021 survey of remote workers in the United States [60] found that 30% of respondents had experienced an increase in gender-based hostility since COVID-19, while 13% reported an increase in race/ethnicity-based hostility and 15% reported an increase in age-based hostility. Another study observed an increase in more subtle forms of incivility during remote work, such as disrespectful multi-tasking during meetings [22], and generally, organizational policies may fail to address the forms misconduct can take in virtual environments [42, 63].

Not all findings agree, however. Bollestad et al. [16] found that remote work was associated with an overall decrease in bullying among Norwegian workers, considering both in-person and cyber-bullying. And, a 2022 Deloitte survey [31] reported that women who work fully on-site experience fewer microaggressions than those who work fully remotely, but hybrid-working women experience the most microaggressions of all.

These mixed results suggest that the relationship between remote and hybrid work and cyber incivility may not be straightforward. However, varied results may also relate to methodological differences. Much of the existing research focuses on narrow aspects of cyber incivility, such as microaggressions or identity-based hostility [31, 60], or does not separate cyber incivility from in-person behaviors Bollestad et al. [16]. To address these gaps, this study examines the relationship between remote work and multiple forms of cyber incivility, providing a more comprehensive understanding of the dynamics at play.

2.1.2 Cyber incivility and well-being. Cortina et. al's [27] seminal work established that workplace incivility contributes to poor job satisfaction, intention to quit one's job, and psychological distress. Subsequently, researchers have described a variety of harms including decreased work performance [108, 125], lower job satisfaction [52], poor sleep quality [33], diminished subjective well-being [69, 74, 103, 135], and turnover intention [68, 131]. These negative impacts may also spill over onto others, such as through work-family conflict [52] and decreased well-being among targets' household members [91], and through increased incivility to others [7].

Compared to face-to-face incivility, most research has found cyber incivility appears to be less severe [53, 72, 105]. Nonetheless, cyber incivility is associated with distress [113], decreased organizational commitment [83] and performance [154]. And, some research has found that cyber incivility can have stronger effects than in-person incivility on task performance [95] and heart rate [125].

While prior work is clear that incivility (both in-person and cyber) is harmful to workers' well-being, there is less information about which forms of cyber incivility are *most* harmful, and thus in most urgent need of attention.

2.2 Social support

Social support can improve workers' psychological conditions in stressful work situations [2, 9, 18, 106]. Having a support network can both protect against [130] and alleviate harms [104] of workplace bullying. Perceived support after experiencing workplace incivility is associated with better outcomes to job satisfaction and well-being [98], work-to-family conflict and life satisfaction [52], and less likelihood of instigating incivility toward others [55]. Additionally, perceived supervisor support moderates the harmful effects of workplace incivility on daily stress [13] and negative emotions [120]. Based on these results, it is no surprise that a variety of studies have advocated for social support as a response to workplace incivility [65, 73, 123].

There are barriers to seeking support, however. In general, some workers are reluctant to seek peer support because they believe it will make them appear weak [75]. Remote workers in particular, may exacerbate this by reducing opportunities to form and maintain social ties with colleagues [75]. A central difficulty is that digital communication tools lack the richness or ability to convey non-verbal cues of in-person communication, which can frustrate efforts to establish trust and common ground [107]. To some extent, this suggests that the same 'distancing' factors that may promote incivility via online disinhibition [138] could simultaneously frustrate efforts to build healthy and trusting relationships.

Based on this challenge, HCI researchers have examined ways to facilitate social support through online communication channels, such as by designing workplace social support systems for teachers [143], entrepreneurs [71], care workers [115], and graduate students [51, 59]. Some of this research has focused on contexts like online forums, where anonymity can provide a boon for support seeking [6, 47, 66]. However, workplace communications are rarely anonymous, and concerns about impression management may dissuade people from using digital work communications to discuss topics they believe are unrelated to work [76]. Koehne et al. [70] identified that remote workers must build personal social support infrastructures, and thus should be provided with resources and training to help them form trusting relationships with their colleagues over digital channels. To that end, HCI researchers have built systems to help people find suitable peers through matchmaking [51, 128], awareness systems to promote informal communication [86] and designed interactions that foster bonding once connections are made [10, 34]. Most of the above work has focused on using technology to enhance human-to-human connections, but other research has investigated the potential for chatbots and other virtual agents to fulfill some dimensions of social support [30, 90, 140]. This is a valuable direction since accessing social support can be difficult in remote workplaces. However, results suggest that human support [149] and particularly in-person support [65] is generally preferred, if available. Overall, this research has emphasized that social support conditions vary between remote and face-to-face contexts. Thus, digital support requires distinct competencies and resources to overcome its distinct challenges.

3 Research questions

Despite a wide body of research about workplace incivility and social support, there are significant open questions, such as the

extent to which prior knowledge should be updated in the advent of widespread remote and hybrid work.

Our literature review identified conflicting findings about the relationship between remote work and the frequency of workplace incivility. Therefore, we investigate specific types of cyber incivility in **RQ1**: *To what extent do remote and hybrid workers experience cyber hostility, gossip, and exclusion, and how is the degree of remote work related to the frequency of such experiences?*

We then investigate the effects of different forms of incivility in **RQ2**: *What types of cyber incivility are most harmful to remote and hybrid workers?* Focusing on those who experience incivility most frequently, we investigate the impact of various forms of incivility on remote and hybrid workers' well-being and identify conditions related to particularly impactful incidents. Since prior research is clear that cyber incivility is harmful, our goal is to identify which forms of cyber incivility require the most urgent attention. This will help in targeting support efforts effectively.

Lastly, we ask **RQ3**: *Among remote/hybrid workers who frequently experience cyber incivility, what factors influence if and how they seek support after such experiences?* This question examines how these workers cope with cyber incivility, including support-seeking behaviors and barriers to seeking help.

Across these questions, our overarching goal is to identify opportunities to protect and support these workers and to identify challenges that warrant further analysis from HCI researchers

4 Method

We surveyed and interviewed remote and hybrid workers in the United States in July 2023. 965 remote and hybrid workers completed a preliminary survey about their frequency of experiencing cyber incivility, working remotely, and using workplace communication technologies, as well as demographic questions. This preliminary survey was used to address RQ1, about factors associated with frequently experiencing cyber incivility, and to identify participants who frequently experience cyber incivility for our main survey ($n = 250$) and follow-up interviews ($n = 20$). To address RQ2 and RQ3, the main survey included questions about respondents' well-being and asked them to describe a particularly impactful cyber incivility incident, including any actions they took in response. After the main survey, 20 participants completed interviews where they described their experiences in more depth.

Participants were compensated as follows -- preliminary survey: \$1.30 USD (median completion time = 2 minutes 38 seconds); main survey: \$3.85 USD (15 minutes 7 seconds); interview: \$9.50 USD (30 minutes).¹ The study was approved by our institution's ethics review board. Survey content is included in the supplementary documents.

4.1 Preliminary survey

4.1.1 Participants. Participants were recruited using Prolific.co, an online research platform. To recruit remote and hybrid workers, we pre-screened for participants who "sometimes work from a central place of work and sometimes remotely" or "always work remotely"; are employed full time; and are located in the United States.

We received 999 responses and removed 34 people whose survey responses indicate they work part-time or that they never work remotely. After this cleaning, 965 participants remained. Participant demographics are described in Table 1.

4.1.2 Survey measures. **Remote work frequency** was described using a 4-point scale: *Full remote* (Work remotely every day); *Mostly remote* (Up to 1 day per week at the office); *Hybrid* (2-3 days remote each week); *Mostly office* (Up to 1 day per week remote).

Cyber incivility frequency: We measured the frequency of experiencing three categories of cyber incivility behavior, drawn from Martin and Hine's Uncivil Workplace Behavior Questionnaire [92]: hostility, gossip, and exclusion. Our measures of *Exclusion* and *gossip* were adapted from this scale with minimal changes. One item² was added to the *exclusion* construct to reflect measures of digital exclusionary behavior from Lim and Teo [83]. Then, for brevity, two *exclusion* items were dropped because they were very similar to other items, and two *gossip* items were merged into one item.

Since the Uncivil Workplace Behavior Questionnaire focused on in-person incivility, its hostility behaviors do not translate to many forms of digital communication (e.g., text). Therefore, we defined *hostility* measures to reflect the characteristics of digital work, drawing both from the Uncivil Workplace Behavior Questionnaire and other work on cyber incivility.

- "*Shouted at you or used inappropriate language (e.g., profanity, insults)*" – This adapts several items from Martin and Hine [92] that describe aggressive non-verbal behaviors such as using an "aggressive tone of voice" or "rolling their eyes," into an item which can apply to either spoken or written communication.
- "*Said something hurtful, demeaning, or insulting to you*" – This adapts examples of "active" email incivility from Lim and Teo [83], such as, "Said something hurtful to you through email" and "Made demeaning or derogatory remarks about you through email."
- "*Expressed stereotypes based on gender, race, sexuality, or other characteristics*" – This was added based on work associating cyber hostility with microaggressions and stereotype threat [25, 32, 60].
- "*Criticized you to a degree that was excessive*" – This is intended to capture hostility that manifests in unreasonable, persistent, and/or unfair criticisms [36, 38, 43].

Martin and Hine also identify privacy invasion as a form of incivility, involving behaviors like eavesdropping or unwarranted surveillance. While important, we do not address this in our study, as in-person privacy invasions differ fundamentally from digital breaches, which are more closely tied to cybersecurity than interpersonal dynamics.

The final scale included 11 questions and is listed in Appendix A.1 along with further details about scale construction. Participants answered how often they experienced each item and felt it was disrespectful, using a 5-point scale.

This scale design captures three significant cyber incivility behaviors. However, it is important to acknowledge that other measures

¹Payments were issued using GBP through Prolific, a UK-based platform. USD figures here are based on the exchange rate at the time of the study.

²E4: "Ignored your questions or disregarded your comments."

Table 1: Survey participant demographics

Preliminary survey (N = 965)			
Gender	Age	Race	Household Income
Agender: 1 (0.1%)	18-24: 51 (5.3%)	American Indian/Alaskan Native: 5 (0.5%)	<\$10,000: 4 (0.4%)
Man: 478 (49.5%)	25-34: 364 (37.7%)	Asian: 100 (10.4%)	\$10,000 to <\$25,000: 36 (3.7%)
Non-binary: 12 (1.2%)	35-44: 279 (28.9%)	Black/African-American: 83 (8.6%)	\$25,000 to <\$50,000: 143 (14.8%)
Woman: 473 (49.0%)	45-54: 165 (17.1%)	Hispanic/Latino: 41 (4.2%)	\$50,000 to <\$75,000: 201 (20.8%)
N/A: 1 (0.1%)	55-64: 92 (9.5%)	Middle Eastern: 2 (0.2%)	\$75,000 to <\$100,000: 171 (17.7%)
	65-74: 13 (1.3%)	Native Hawaiian/Pacific Islander: 1 (0.1%)	\$100,000 to <\$149,000: 217 (22.5%)
	75+: 0 (0.0%)	Multiracial: 72 (7.5%)	>\$150,000: 184 (19.1%)
	N/A: 1 (0.1%)	White: 658 (68.2%)	N/A: 9 (0.9%)
		N/A: 3 (0.3%)	
Main survey (N = 250)			
Gender (%)	Age (%)	Race (%)	Household income (%)
Man: 111 (44.4%)	18-24: 14 (5.6%)	American Indian/Alaskan Native: 2 (0.8%)	<\$10,000: 1 (0.4%)
Non-binary: 5 (2.0%)	25-34: 84 (33.6%)	Asian: 15 (6.0%)	\$10,000 to <\$25,000: 11 (4.4%)
Woman: 134 (53.6%)	35-44: 65 (26.0%)	Black/African-American: 31 (12.4%)	\$25,000 to <\$50,000: 39 (15.6%)
	45-54: 52 (20.8%)	Hispanic/Latino: 16 (6.4%)	\$50,000 to <\$75,000: 62 (24.8%)
	55-64: 30 (12.0%)	Multiracial: 25 (10.0%)	\$75,000 to <\$100,000: 35 (14.0%)
	65-74: 5 (2.0%)	White: 161 (64.4%)	\$100,000 to <\$149,000: 57 (22.8%)
			>\$150,000: 43 (17.2%)
			N/A: 2 (0.8%)
N/A = No Answer ("Prefer not to say")			

could provide a different lens into remote and hybrid workers' experiences. For example, Cortina et al. [27] measures incivility as a single construct, [83] distinguish "active" and "passive" incivility in emails, and Walsh et al. [148] measure civility norms within a workplace culture. The scale used in our study is intended to help us evaluate types of incivility that are most impactful and in need of support in remote and hybrid settings.

Frequency of technology use was described using 5-point scales indicating how often participants interact with people at work using various technologies: email, video conferencing, instant messaging (e.g., Slack, WhatsApp), text message (SMS), project management and collaboration tools (e.g., Trello, Jira, Miro, GitHub), enterprise social media (e.g., Microsoft Yammer, Facebook Workplace), and conventional social media (e.g., Facebook, Twitter).

Demographic questions consisted of gender, age, race, state of residence, employment status, education level, and household income.

4.2 Main survey and interviews: Experiences of frequently disrespected participants

4.2.1 Participants. For the main survey, we recruited participants from the preliminary survey who regularly experienced any form of cyber incivility. Initially, we invited those who reported incivility at least "Often (monthly)" (n = 246). Since recruitment slowed after reaching 170 respondents, we extended invitations to those experiencing it "Sometimes (every few months)" in order to meet our goal of recruiting 250 participants with significant encounters with cyber hostility, gossip, or exclusion. As a result, the main survey and interviews do not reflect the general population, but instead,

Table 2: Frequency of experiencing any kind of cyber incivility among preliminary survey and main survey participants

	Preliminary survey (N = 965)	Main survey (N = 250)
Never	14% (n = 139)	
Rarely	22% (n = 216)	
Sometimes (every few months)	38% (n = 364)	30% (n = 75)
Often (monthly)	18% (n = 172)	48% (n = 120)
All the time (weekly or more often)	8% (n = 74)	22% (n = 55)

our goal was to understand the experiences of those most likely to need support regarding cyber incivility.

250 participants completed the main survey. Their demographics are described in the bottom half of Table 1. Table 2 shows both the preliminary and main survey participants' frequency of experiencing any kind of cyber incivility.

We conducted follow-up interviews with 20 participants. We recruited randomly from participants in the following four groups, slightly oversampling women because they are more likely to experience workplace incivility than men [15, 25, 27, 132]: Full-remote women (n = 6), hybrid women (n = 6), Full-remote men (n = 4), Hybrid men (n = 4)³.

³We included non-binary participants in the random pools (along with the men group), however none ended up participating in an interview.

4.2.2 Survey measures. Well-being and quit-intention. We used the Employee Well-being Scale [153] to assess three dimensions: (1) Life well-being (LWB) – happiness and satisfaction in life; (2) Work well-being (WWB) – Satisfaction with work; and (3) Psychological well-being (PWB) – mainly learning, growth, and self-actualization. Each dimension was measured using 5–6 items. We removed one item from LWB subscale because pilot participants found it confusing. We also included three questions measuring *Quit intention* from Lim and Teo [83], who identified that cyber-incivility can increase intentions to leave one's job. All items were measured on a 7-point scale.

Impactful cyber incivility incident. Participants were asked to recall the "most impactful" cyber incivility incident they had experienced at work. They reported the type(s) of incivility, how it affected them, their relationship(s) with the perpetrator(s), and the communication tool(s) involved. Participants then described how and why they responded (or did not respond) and evaluated the outcome of their response through both close- and open-ended questions. When asking about participants' responses to the event, we included questions about seeking both *instrumental* support (i.e., practical support to prevent or mitigate future incidents) and *emotional* support from others, following prior research [94, 99].

Identity factors. To understand the role of identity, participants answered an open-ended question about whether they feel their race, gender, or other identity features affect their experiences with workplace disrespect, and if so, why.

4.2.3 Interview design. During interviews, we asked about: Overall perspectives of hybrid/remote work, including experiences with disrespect; more details about the "impactful" disrespectful incident they identified in the survey; differences in interacting in-person vs. remotely with the perpetrator(s) of that incident; and about potential relationships between communication technology, experiencing various types of cyber incivility, and seeking social support.

4.3 Analysis

4.3.1 Measurement models. Confirmatory Factor Analysis (CFA) was conducted in Stata BE 17.0 to validate constructs describing *cyber incivility frequency* and *well-being*. Average Variance Explained (AVE) was calculated using the 'condisc' program [96]. Factor loadings are detailed in Appendix A. CFA is a well-established method for evaluating the reliability and validity of latent constructs defined by multiple observed items and has been employed in various disciplines including HCI [e.g., 5, 110, 137]

Cyber incivility frequency: Initially, incivility frequency was modeled with three factors: hostility, exclusion, and gossip. While model fit and reliability were good, the squared correlation between hostility and gossip exceeded their AVEs, suggesting they were too closely related to separate. This suggests a limitation in the adapted scale. However, our interviews suggested that some factors, such as opportunities for casual conversations, simultaneously give rise to both hostility and gossip. Therefore, we revised the model, combining hostility and gossip into a single *hostility & gossip* variable. The revised model had a good overall fit (RMSEA = 0.064; CFI = 0.977; SRMR = 0.029), internal reliability (*Hostility & gossip*: AVE = .59; *Exclusion*: AVE = .67), and discriminant validity (squared correlation

= 0.57). This reveals that the *hostility & gossip* and *gossip* constructs are stable and can be reliably used in our analyses. Although our measurement model necessitated a combined variable for measuring *frequency* of hostility & gossip, our qualitative analyses refer to these constructs separately since they have clear qualitative differences.

Well-being. CFA was used to validate four well-being constructs: Life well-being (LWB); Work well-being (WWB); Psychological well-being (PWB); and Quit intention. The initial model fit was poor, so we used balanced parceling [84], averaging the highest and lowest loading items to create three parcels per factor. After parceling, model fit indices were: RMSEA = 0.075; CFI = 0.981; SRMR = 0.037. The factors had strong internal reliability (*LWB*: AVE = .909; *WWB*: AVE = 0.841; *PWB*: AVE = 0.707; *Quit-intention*: AVE = 0.915) and discriminant validity (all squared-correlations were less than AVE scores).

4.3.2 Quantitative analyses. This section describes the quantitative analysis procedures. Additional model diagnostics, including Variance Inflation Factor (VIF) and residual plots, are available in the supplementary materials.

To address **RQ1**, we used linear regression to predict the frequency of experiencing *hostility & gossip* and *exclusion* based on the preliminary survey. Independent variables were: remote work frequency, reported frequency of communication technology use, and demographic variables as follows.

Independent variables were: remote work frequency, reported frequency of communication technology use, and demographic variables as follows. Frequency of communication technology use was included as a control variable. This accounts for the idea that higher digital communication frequency likely correlated with cyber incivility frequency due to the increased volume of interactions. Gender was included as *woman* or *non-binary*, with *man* as the reference category. Race was included as a dichotomous variable measuring whether the participant identified as white, to control for the likelihood that white workers experience less incivility than others [60]. We acknowledge that grouping people of color together does not capture the diversity of experiences among different racialized groups. Age was included because younger people may experience more incivility than older workers [82]. Income was included as a partial proxy for organizational status, which may influence experiences with workplace incivility [54], and because income can influence relevant response behaviors such as changes in well-being and job-seeking behavior.

To reduce model complexity, 5-point ordinal variables measuring the frequency of technology use were collapsed into three categories. A comparison of the simplified model (AIC = 2509.33, BIC = 2621.15) with the original model (AIC = 2506.63, BIC = 2676.79) showed that the simpler model, while having a slightly worse AIC, had a better BIC, suggesting minimal loss in fit and improved interpretability. Regression diagnostics revealed heteroskedasticity, which can lead to inefficient estimates and invalid standard errors in ordinary least squares (OLS) regression. To address this, we applied robust standard errors, ensuring valid inference despite the heteroskedastic error structure.

To address **RQ2**, we used linear regression models predicting life, work, and psychological well-being, and a multinomial logistic

regression predicting intention to quit one's job. The reason for this model choice is that "quit intention" exhibited a bimodal distribution with peaks at very low and very high intention and thus did not fit the assumptions for a linear regression, and multinomial logistic regression does not assume a specific distribution or proportional odds ratios. We converted the latent variable for "quit intention" into categories. We tested with 3, 4, and 5 categories and the 3-category model was the best fitting based on Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC). In all models, robust standard errors were used to account for heteroskedasticity. Independent variables were: frequency of experiencing cyber *hostility & gossip* and *exclusion*, and demographic variables. Additionally, we present summary statistics about participants' "particularly impactful" cyber incivility incidents. These statistics help illustrate the types of incidents that are likely to affect well-being.

To address RQ3, we present summary statistics about how participants said they responded to the particularly impactful cyber incivility incident, including seeking support from other people. We then present ordered logistic regression models predicting the perceived practical and emotional effectiveness of their responses. Robust standard errors were used to account for heteroskedasticity.

Independent variables describe participants' responses (personally taking action, seeking practical support, and seeking emotional support), communication channels used for those responses, and demographic variables.

4.3.3 Qualitative analysis. Open-ended survey questions and interview transcripts were analyzed using thematic analysis [19]. The first author conducted the primary analysis, starting with inductive open coding of the data to identify initial themes. For interviews, the themes captured dimensions such as types of incivility, perceived causes (e.g., discrimination, miscommunication, office politics) and effects (e.g., emotional hardship), and participants' perceptions of how remote work and specific communication channels influenced these experiences. Regarding social support, themes generally resolved around motivations and barriers that enabled or prevented support-seeking. For survey responses, themes were similarly identified but were more structured due to the format of the survey questions, allowing for reporting frequencies of responses.

The analysis also examined co-occurrences among themes, such as how remote work influenced certain types of incivility differently. The most salient themes were identified through iterative review—those raised by multiple participants and central to their experiences. The first author presented emerging themes and representative quotes to the co-authors throughout this process. While a formal inter-coder reliability assessment was not conducted, the co-authors collaboratively reviewed, discussed, and refined the thematic framework. Disagreements about interpretations were resolved through discussion until a consensus was reached. Thematic saturation was observed as no new themes emerged in the later stages of analysis, indicating comprehensive coverage of the dataset.

Additionally, open-ended questions about the role of participants' identity in their experiences with incivility were coded in two steps. First, whether identity was perceived to affect each participant's experience, and second, if so, which identity dimension(s)

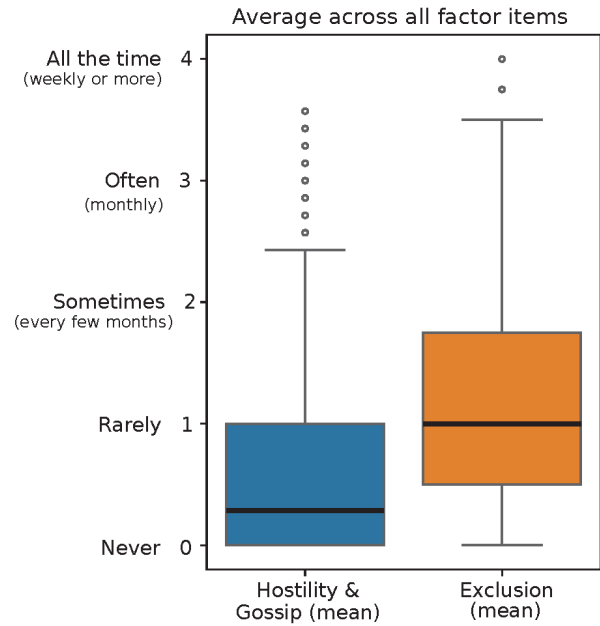


Figure 1: Average frequency scores per cyber incivility type

were significant among gender, race, age, and other/undefined. The "other/undefined" category included sexuality, ability, and cases where participants said identity was relevant but did not specify a particular dimension.

5 Results

5.1 Factors affecting frequency of experiencing cyber incivility

RQ1 asked, "To what extent do remote workers experience cyber incivility, and how is the degree of remote work related to the frequency of such experiences?" Figure 1 summarizes participants' average frequency scores of experiencing *Hostility & Gossip* and *Exclusion* in the preliminary survey, which were calculated by taking the mean of items within each factor on a scale from 0-4. Thick black lines indicate the median for each box. The median scores were fairly low: *Hostility & Gossip* median = 0.25 (between "rarely" and "never"); *Exclusion* median = 1 ("rarely"). This indicates that most preliminary survey respondents never-to-rarely experienced these forms of cyber incivility, but the high upper range of the whiskers shows that a notable portion is affected by incivility more often. Additionally, exclusion is experienced more frequently than hostility & gossip.

We used linear regression analysis to identify variables associated with the frequency of experiencing cyber incivility, as shown in Table 3. All Variance Inflation Factor (VIF) scores were less than two, indicating there was no significant multicollinearity.

Four main patterns were apparent in the regression results:

- *Mostly office* and *hybrid* workers experience both types of incivility more frequently than full remote workers. The effect size increases in proportion to the frequency of going

Table 3: Linear regression models predicting frequency of experiencing (1) *Hostility & Gossip* and (2) *Exclusion*. The dependent variable and continuous predictors (age and income) are standardized, meaning that the coefficients represent the predicted change for a one-standard-deviation change in each predictor, with all other predictors held constant. Note: 10 participants who declined to answer demographic questions were excluded from these regression models since they include demographic covariates.

	Hostility & Gossip		Exclusion	
Remote work frequency (<i>reference group = full remote</i>)				
Mostly remote	0.152	(0.08)	0.112	(0.09)
Hybrid	0.303***	(0.07)	0.224**	(0.07)
Mostly office	0.504***	(0.12)	0.420***	(0.12)
Technology use frequency (<i>reference group = low usage frequency</i>)				
Email				
Medium	0.146	(0.11)	0.110	(0.15)
High	0.152	(0.09)	0.288*	(0.13)
Video call				
Medium	0.125	(0.08)	0.047	(0.09)
High	0.286***	(0.08)	0.280**	(0.09)
Chat/IM				
Medium	0.085	(0.10)	0.135	(0.11)
High	0.017	(0.08)	0.068	(0.09)
SMS				
Medium	0.017	(0.08)	0.068	(0.09)
High	0.182*	(0.08)	0.188*	(0.08)
Collab tool				
Medium	0.320***	(0.08)	0.325***	(0.09)
High	0.315***	(0.09)	0.297***	(0.09)
Enterprise SNS				
Medium	0.148	(0.10)	0.078	(0.10)
High	0.407***	(0.10)	0.190	(0.10)
Other SNS				
Medium	0.291**	(0.11)	0.112	(0.11)
High	0.221	(0.12)	-0.112	(0.12)
Demographic variables				
Gender = Non-binary	-0.214	(0.33)	-0.003	(0.36)
Gender = Woman	0.138*	(0.06)	0.190**	(0.06)
Race = White	-0.114	(0.07)	0.038	(0.07)
Income	-0.115***	(0.03)	-0.088**	(0.03)
Age	0.033	(0.03)	-0.013	(0.03)
Constant	-0.969***	(0.12)	-1.040***	(0.15)
R ²	.229		.135	
N	955		955	
<i>Standard error in parentheses. * p < .05, ** p < .01, *** p < .001</i>				

to the office, with *mostly office* workers reporting the most frequent experiences with *hostility & gossip* ($\beta = 0.504$, $p < .001$) and *exclusion* ($\beta = 0.420$, $p < .001$).

- Women reported experiencing more frequent *hostility & gossip* ($\beta = 0.138$, $p < .05$) and *exclusion* ($\beta = 0.190$, $p < .01$).
- High income earners report experiencing less frequent *hostility & gossip* ($\beta = 0.115$, $p < .001$) and *exclusion* ($\beta = 0.088$, $p < .01$).
- Several control variables measuring communication technology use were significant, confirming that the frequency of experiencing cyber *hostility & gossip* and *exclusion* is generally proportional to the amount of digital communication. Notably, Video calls, SMS messaging, and Collaboration tool

use were associated with increases in both models, with effect sizes ranging from 0.280 to 0.325.

5.1.1 Unpacking the roles of remote work and communication technology. We asked interview participants whether their experiences with workplace incivility differed when working remotely compared to working in person. Importantly, all interview participants were from the group of 250 main survey participants who experienced at least one of the cyber incivility items frequently, so the interview data do not reflect the opinions of participants who do *not* experience frequent cyber incivility at work.

Hostility: Interview participants had mixed responses regarding whether hostility occurs more or less in remote environments compared to in person. Seven out of twenty (35%) said hostility is less frequent when remote. For example, because there is less opportunity for impromptu hostility: "[Hostile remarks tend to happen as] someone walks by the kitchen or in our office or someone walks by the desk. That would happen more frequently in person than it would actually remote" (P8). P11 expressed that remote work provides respite from frequently hostile people: "I'm so much happier because I don't have to see her all the time. [When working in person,] I was seeing her five days a week, a couple hours a day. It was horrible. And now I might talk to her once a week" (P11). P20 additionally commented that remote work mitigated her experiences with identity-based prejudice:

If I'm in the office and a vendor walks in, it's always assumed that I'm the receptionist just because I'm a certain age. [... But when working remotely I am] just a name and a number rebooting into someone's computer. I don't have that same experience. (P20)

On the other hand, 8 interview participants (40%) said that people may be less filtered when communicating remotely, which can result in more incivility:

When it's remote, sometimes people can feel like they can be more honest with you in a way that they're not when you're in person. When you're in person, there's a sense that you have a lingering relationship with that person, versus when you're remote, you're not seeing them in person. They're kind of a figure on a screen. You can turn off the computer and just walk away from the conversation. (P9)

Exclusion: Participants had mixed opinions about whether remote work reduces or increases exclusion. Some felt that it was easier to carelessly exclude people when working remotely, such as P12: "It's easier to forget about one of your employees when everything's online and you're not seeing them right away."

By contrast, P8 noted that the norm of including a list of participants in online meetings could make it harder to exclude people: "If the [Webex or Zoom] meetings are set up properly, the boss will know who's involved." Four participants indicated that remote work had decreased clique-like exclusion from social events. To some extent, this was due to fewer socializing opportunities overall, but for some, the shift to remote work provided new opportunities. P20 had been frustrated by a "boy's club" culture in person, but said, "One of the things that I've been able to kind of cobble up during COVID has been a support group, both female and male." Similarly, P9, who had trouble attending in-person social gatherings, said that online social events like virtual movie nights, "[make] it easier for me to participate [...] and build that relationship within the team."

Gossip: There was an almost universal consensus that there was less gossip when working remotely compared to working in person. As P10 said, "I just don't think there's a lot of opportunities to [gossip remotely] versus if we had been in person and all working together." However, P5 noted that remote work could also make it more difficult to know if one is being gossiped about: "I'm not

saying it doesn't occur virtually, but it's just sort of much easier, I think, to be aware of in an in-person environment."

5.1.2 Perceived effects of identity. When asked, "Do you feel that your race, gender, or other features of your identity affect your experiences with disrespect in the workplace?", 50.8% (n = 127) said "no," 24.0% (n = 60) indicated that their experiences were shaped by their gender, 13.6% (n = 34) by their race, 7.2% (n = 18) by their age, and 6.8% (n = 17) referred to other identity features or answered "yes" but did not specify specific aspect(s) of their identity that were influential.

Binary logistic regressions showed that women were more likely to assert that their gender influenced their experience with incivility than men ($\chi^2(1, N = 245) = 42.55, p = .000$), and White people were less likely than others to say that race affected their experience ($\chi^2(1, N = 250) = 47.60, p = .000$).

5.2 Harms of cyber incivility

Table 4: Linear regression model addressing RQ2. Note: Two participants who declined to answer demographic questions were excluded from these regression models since they include demographic covariates. Coefficients are standardized.

	Life WB	Work WB	Psych. WB
Cyber incivility frequency			
Hostility & Gossip	0.129 (0.10)	0.311** (0.12)	0.094 (0.08)
Exclusion	-0.367** (0.13)	-0.568*** (0.14)	-0.244* (0.11)
Demographic variables			
Gender = Non-binary	-0.209 (0.72)	-0.020 (0.81)	0.131 (0.49)
Gender = Woman	-0.097 (0.16)	-0.250 (0.19)	-0.189 (0.14)
Race = White	-0.129 (0.18)	-0.080 (0.19)	-0.060 (0.14)
Income	0.501*** (0.08)	0.197* (0.09)	0.251*** (0.06)
Age	0.049 (0.08)	0.252** (0.09)	0.106 (0.06)
Constant	0.409* (0.18)	0.438* (0.19)	0.292* (0.14)
R ²	.189	.135	.109
N	248	248	248

Standard error in parentheses. * $p < .05$, ** $p < .01$, *** $p < .001$

RQ2 asked, "What types of cyber-incivility are most harmful to remote and hybrid workers?" To address this question, we first used regression analysis to evaluate the effects of frequently experiencing cyber incivility on well-being. Then, we summarized the qualities of cyber incivility incidents that participants identified as particularly impactful.

Table 4 shows the results of three linear regression models, predicting Life Well-being (LWB), Work well-being (WWB), and Psychological well-being (PWB). One clear result is that frequently experiencing exclusion has a negative effect on all well-being variables. Additionally, a multinomial logistic regression predicting medium and high quit intention (compared to low quit intention), indicated that high quit intention is predicted by exclusion frequency ($\beta = 0.568$, $p = .039$). R^2 for the PWB model (.109) and pseudo- R^2 for the quit intention model (.033) were low, indicating that only a small portion of the variability in these outcomes, so unmeasured factors likely play a significant role in determining these outcomes. (See Appendix B, Table 9).

By contrast, *hostility & gossip* was positively associated with work well-being ($\beta = 0.311$, $p = .008$). We examined this result with alternative models (described in this paper's supplementary materials) in which hostility and gossip were treated as separate constructs. These models suggested that Hostility negatively and Gossip positively relate to well-being. However, these effects were highly sensitive to model specifications and appeared unreliable due to their interdependence. For these reasons, our main analysis uses the single construct, "Hostility & Gossip," which better captures their shared impact on well-being and avoids issues of multicollinearity. We rely on our qualitative results to further unpack this result, and so will return to it in the Discussion section.

5.2.1 Characteristics of 'Impactful' incidents. Participants were asked to identify and reflect on the 'most impactful' incidents of cyber incivility they had experienced. Descriptions of these incidents varied, but it was clear that most participants felt they were upsetting. Using a scale from 1 (strongly disagree) to 7 (strongly agree), participants generally strongly agreed that "At the time, I felt really bothered by this incident" ($M = 6.2$, $SD = 1.00$). When asked if they agree that "At the present time, I still feel bothered by this incident", responses were still generally positive ($M = 4.7$, $SD = 1.78$). Of these impactful incidents, 23.2% had occurred within the past month, 47.6% between 1-6 months ago, and 29.2% more than six months ago.

Types of incivility. Figure 2 shows the types of cyber incivility that participants associated with these impactful incidents. 79% ($n = 197$) of the participants indicated that the incident involved at least one hostile behavior, and 72% ($n = 179$) referred to at least one exclusion behavior. By contrast, only 34.8% ($n = 87$) referred to gossip, and of these gossip incidents, only two did not involve either hostility or exclusion. In sum, gossip alone seems unlikely to constitute a "particularly impactful" incident among our participants.

Mixed effects of working remotely. Interview participants had mixed opinions about whether working remotely alleviated or exacerbated the impacts of cyber incivility. Four said that remote incivility was less emotionally impactful than in-person incivility, e.g., "It's easier for me to ignore virtually than to have it right in front of my face" (P11). P7 noted that remote work made it easier to diffuse his initial emotional reaction without the risk of offending anyone:

Sometimes the calls don't have video [...] so I can do whatever I want with my facial expressions or with my hands or something like that, nobody will know,

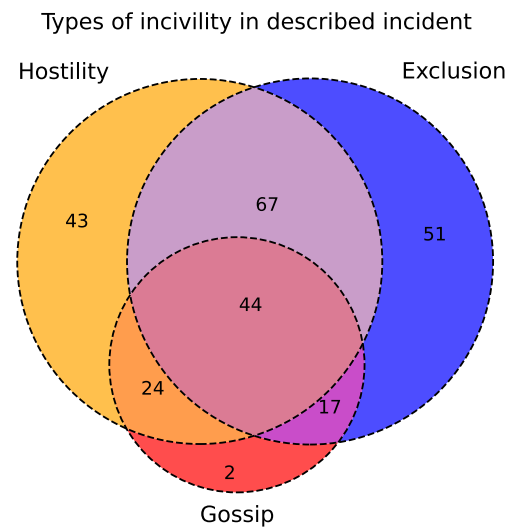


Figure 2: Most of the "impactful" incidents involve multiple incivility categories at the same time. Hostility and Exclusion are more abundant than Gossip.

right? [...] But if I'm in person, then I will have to make sure that I don't overreact or say something wrong and that can't be taken back" (P7).

On the other hand, P9 emphasized that working remotely allowed incivility to encroach into her home: "If I was working in person I'd be able to have that boundary, [...] but because I'm remote and I heard the comment within the confines of my bedroom, it just kind of repeated in my head." She also noted that the abrupt end to remote conversations could prevent resolution: "If we had been in person then I would have been forced to kind of hear her out a little bit more whereas, because we were just online, the conversation just ended" (P9). P12 echoed this, describing the isolating aftermath of virtual incivility: "When the call ends and I don't see their face anymore, and I'm just, like, sitting at my monitor [...] I just myself ruminating over it a lot more, because I don't have my colleagues here to hash it out with."

In sum, distance imposed by remote work, especially when video and other rich signals were disabled, could reduce incivility's impacts. However, the same conditions meant that some incivility intruded into participants' homes, which could have a lingering negative effect.

Video calls were over-represented. Compared to other communication technologies, video calls was over-represented in these impactful incidents. Averaging participant responses about how often they used each communication technology on a scale from 0-4, participants used email (mean = 3.6) and chat/IM (mean = 3.2) more frequently than video calling (mean = 2.9). Despite its lower usage frequency, video calling was involved in 50% of impactful incidents ($n = 125$), compared to 35% for Email ($n = 87$) and 25% for Chat/IM ($n = 63$). This adds context to the results in the previous section. Specifically, although Table 3 shows that although other

technology channels have large coefficients predicting the incivility outcomes, both their overall usage rate and representation in impactful incidents were low: *Collaboration tools*: mean usage = 1.8, included in 6% of impactful incidents ($n = 14$); *Enterprise SNS*: mean usage = 1.5, included in 3% of impactful incidents ($n = 8$), *Other SNS*: mean usage = 1.3, included in 2% of impactful incidents ($n = 5$). This suggests that reducing incivility over video calls should be a high priority, relative to other digital channels.

One possibility is that perpetrators were more emboldened in video calls since they are less likely to be logged than other digital communications and may be one-on-one:

"when he and I remote it's just me and him so he could do whatever" (P14).

"[On emails,] I think the person takes time to think and respond because there are too many people CC'd and then there is a trail, right? [...] I did not see [hostile incivility] on emails or on chat because that leaves the history. [...] but definitely on calls" (P7).

Another explanation is that video calls are more visceral than other digital communications, and so could be more memorable. For example, when asserting that incivility over digital communications is less impactful than in-person incivility, P2 singled out video calls as an exception: "You're not actually looking at someone face to face *other than over Zoom calls*" (emphasis added).

5.3 Responding to cyber incivility and seeking social support

RQ3 asked, *Among remote/hybrid workers who frequently experience cyber incivility, what factors influence if and how they seek support after such experiences?*

Table 5 summarizes the frequency of actions participants said they took (or did not take) in response to the impactful incident (under "% who did this").

Regarding taking personal action, participants were split between not taking action, confronting the perpetrator, and reducing communication with the perpetrator. Few said they had or considered quitting their job. Regarding practical support ("to prevent or mitigate future incidents"), almost half did not seek practical support, and about 30% each sought support from a colleague or by reporting the incident to management or authority. Regarding emotional support ("venting or complaining to get it off my chest"), 50.4% sought emotional support from someone outside work, 42.4% from someone at work, and 31.6% did not seek emotional support.

Participants' choices of communication channels for these responses are notable. In-person communication was strongly preferred (53.6%), followed by private digital communications (34.0%), and only 6.4% using group communications. 25.6% did not contact anyone.

5.3.1 What responses were most effective? Table 5's rightmost two columns report the result of ordered logistic models predicting participants' perceived effectiveness of their responses to these incidents, measured on a scale from "made things much worse" to "made things much better." Model 1 measures *practical effectiveness* – whether the response resolved the problem or led to a

reduction in future incidents. Model 2 measures *emotional effectiveness* – whether the response caused the participant to feel better. In Model 1, data sparsity in one category of the dependent variable resulted in the proportional odds assumption being violated. This was resolved by combining "made things much worse" ($n = 2$) and "made things slightly worse" ($n = 15$), resulting in a 4-step ordinal dependent variable. For Model 2, the data met the proportional odds assumption, so the original 5-step dependent variable was retained. Pseudo- r^2 scores are fairly low (.09 and .13), indicating that there is significant variation in people's responses that is not explained by these models. Nonetheless, the results provide clues about what follow-up behaviors may be most important to support.

Practical effectiveness was positively associated with directly confronting the perpetrator or reducing communication with that person, reporting the incident to management or other authority, seeking emotional support from someone at work, and using group digital communications for one's responses. Emotional effectiveness was positively associated with seeking emotional support from someone at work or outside work, and with using group digital communications or in-person communication for one's responses.

These results highlight that emotional support from someone at work is particularly important, as it appears to contribute to both practical and emotional effectiveness. Additionally, the perceived effectiveness associated with responding over group digital communications is at odds with the fact that very few actually used them.

5.3.2 Reasons for seeking or not seeking support. To provide more detail, participants used open-ended survey responses to explain why they responded (or did not respond) to the impactful event in the way they did. 9.6% ($n = 24$) of the main survey participants said that it was not necessary to respond to the incident in any way, e.g., "I was able to just get over it on my own and I don't have to talk to this person very often, so I decided not to reach out to anyone" (P118). The remaining participants described both motivations and barriers for seeking support. We identified several themes in these open-ended responses, which are summarized in Table 6

Desired support types: Emotional support, such as venting, was the most commonly sought-after support type (19.6%) and referred to seeking support from people both inside and outside of work. Practical support to resolve a specific problem was also fairly common (12.8%), and exclusively referred to people at work. Additionally, 14.0% of responses referred to wanting a second opinion. Often, seeking a second opinion was described as a check to validate one's interpretation of events. Sometimes, this overlapped with seeking emotional support, e.g., "Hearing from others that I wasn't the only person who felt mistreated by management made me feel less alone" (P154). In general, these responses' revealed that their support-seeking goals vary depending on the situation but typically fall into the above themes.

Barriers to seeking support: Barriers identified by participants included feeling that support is not available (20.0%), or that seeking support would lead to problems, such as being retaliated against (11.2%) or causing trouble to other people (9.2%). P10's interview

Table 5: Ordered logistic regression models predicting life, work, and psychological well-being. Note: 2 participants who declined to answer demographic questions were excluded from these regression models since they include demographic covariates.

Response	% who did this	Practical Effectiveness	Emotional effectiveness
Personally took action			
<i>(reference = did not personally take action)</i>	34.8%		
Directly confronted perpetrator	34.0%	0.688* (0.32)	0.065 (0.32)
Reduced communication with perpetrator	33.2%	0.633* (0.28)	-0.011 (0.30)
Quit job or seriously considered quitting	7.2%	-0.304 (0.62)	-0.443 (0.64)
Sought practical support			
<i>(reference = did not seek practical support)</i>	47.2%		
Practical support from colleague	29.6%	-0.205 (0.33)	-0.123 (0.38)
Reported incident to management or other authority	28.4%	0.651 (0.34)	0.099 (0.35)
Sought emotional support			
<i>(reference = did not seek emotional support)</i>	31.6%		
Emotional support from someone at work	42.4%	0.748* (0.36)	1.343*** (0.37)
Emotional support from someone outside work	50.4%	0.274 (0.27)	1.067*** (0.28)
Communication channel(s) used for response			
<i>(reference = not applicable, did not use)</i>	25.6%		
Group digital communications	6.4%	1.205** (0.46)	1.311* (0.52)
In-person	53.6%	0.368 (0.30)	0.804* (0.33)
Private digital communications	34.0%	-0.041 (0.30)	0.258 (0.28)
Demographic variables			
Gender = Non-binary		0.003 (0.63)	-0.282 (0.59)
Gender = Woman		-0.036 (0.26)	-0.085 (0.27)
Race = White		0.120 (0.27)	-0.145 (0.26)
Income		-0.134 (0.14)	0.079 (0.11)
Age		0.199 (0.11)	0.196 (0.13)
Pseudo r^2		0.09	0.13
N		248	248

highlighted that identity could exacerbate concerns about "causing trouble" or "retaliation": "I've not even been there a year. My team is predominantly male [...] I don't want to be seen as the troublemaker woman that comes in brand new and then just makes a big fuss about such a 'small' comment." Additionally, some participants asserted that, while they would have liked to seek either practical or emotional support at work, emotional support from home was a fallback option, e.g., "It feels like seeking help from anyone at work

has become futile [...] However, I did find solace in talking to my spouse about the situation" (P11).

Reasons for choosing a communication channel: It was clear that in-person communication was overwhelmingly preferred when seeking support. Participants described that in-person communication was richer and more meaningful (26.4%), whereas rationales for using digital communication usually referred to its convenience

Table 6: Open-ended survey questions revealed common themes about desired support types, perceived barriers for support-seeking, and reasons for seeking support via a specific communication channel.

Category	Theme	% (n)	Representative example(s)
Desired support types	Emotional support	19.6% (n = 49)	"I vented to someone else at work to get the situation off of my chest as it was really bothering me." (P143)
	Practical support	12.8% (n = 32)	"I was worried he would indeed damage my reputation so I went to others for work support to make sure he was not damaging it any more." (P113)
	Second opinion	14.0% (n = 35)	"[I checked others' opinions] to ensure I wasn't overthinking the situation." (P3)
Barriers to seeking support	Lack of support	20.0% (n = 50)	"I felt that If I did go to someone they would just tell me to get over it." (P63) "The person that committed this offense against me was the company CEO and I felt powerless." (P77)
	Avoid retaliation	11.2% (n = 28)	"I didn't take any other action because I am scared of causing a scene and losing this job since I'm lucky to have a remote position." (P10)
	Avoid causing trouble to others	9.2% (n = 23)	"I did not want gossip to circulate and make the situation much worse. I also did not want it to hurt the company's reputation." (P116)
Reasons for choosing a communication channel	In-person is rich and meaningful	26.4% (n = 66)	<i>Preferred in-person because...</i> "Because the matter is serious." (P94) "I could express myself properly." (P79) "I think face-to-face is when you can size a person up." (P4)
	Digital is convenient	22.8% (n = 57)	<i>Chose digital because...</i> "While I would prefer in person, that wasn't possible due to the location of the other people" (P3). "It's the main form of communication in my company. We're remote only." (P128)
	Privacy and discretion	10.4% (n = 26)	"I wanted to only reach out to the people on my team I feel supported by and not everyone." (P140) "I did not want to create a written record that could be accessed by my company." (P154)

or accessibility (22.8%). Related to desires to avoid causing trouble or being retaliated against, 10.4% of participants said that a desire for privacy and discretion influenced their choice of communication channels. Often, in-person was favored in this dimension, too. However, private digital communications were also sometimes described as affording discretion, e.g., "Because I wanted to talk in private - I did so over a video call with my supervisor and in-person face-to-face with my trusted colleague" (P228).

5.3.3 Remote work intensified barriers: Interviews provided additional depth. Specifically, participants discussed ways that working remotely could contribute to barriers to seeking support. Two themes were evident here. First, participants lamented how remote work limited opportunities for *informal conversations*. For example, some expressed that remote conversations feel like they must be work-focused, and are thus ill-suited for support-seeking:

If I'm just bumping into someone at work, [...] I can use a minute or two of their time to talk about my problems and I'm not taking away from things they should be doing instead. Whereas with a Zoom call,

I feel like we need to be talking about business and only business for the most part." (P12)

P10 echoed this and then expanded to state that remote conversations could make it difficult to casually broach a sensitive topic without prematurely 'raising the alarm':

I can't just be all casual, talking to my coworker and be like, "Hey, have you ever been sexually harassed by so and so?" You know, it doesn't come up organically. [...] If I was in person with my coworker, I feel like it would be easier to be like, "Hey, he's kind of weird," right? And then see their facial reaction and then go from there. There's just really no way remotely for me to bring that up without [...] raising the alarm." (P10)

In sum, the perceived formality of digital workplace communications made it harder for some to bring up incivility with the same sensitivity that one could do in person.

Second, interview responses about how remote work affected social support opportunities often referred to the theme of *trust*. For example, interviews commonly referred to seeking support from a small group of trusted peers:

Not everybody trusts each other [...] I have one or two people that I'll confide in. The person two rows over has one or two different people who they might confide in. [...] You gotta be careful who you confide in because they tend to chat with bosses a little bit more and you never know what might slip out about who's disgruntled and why. (P6)

However, forming this sort of trusting relationship was explained to be difficult when working remotely: "If I was in the office [...] probably I'll form a closer circle, I guess. There'll be a few people who I'll hang out with a lot. But with remote, I mean, it's not happening" (P7). The perception that trust was more difficult to build remotely was not universal. However, participants generally characterized digital communications as more formal and task-focused than in-person communications and described ways that this could reduce opportunities for building trusting relationships and tactfully raising sensitive issues. This demonstrates that remote work could intensify perceptions that suitable support opportunities are scarce, especially without risking retaliation or causing trouble to others.

6 Discussion

To address RQ1, we identified factors predicting the frequency of experiencing types of cyber incivility among remote and hybrid workers. The results showed that women experience more *hostility & gossip* and *exclusion* incivility than others, which is consistent with prior research indicating that women experience more workplace incivility in general [15, 132] and in the context of remote work specifically [60]. Based on this result, we urge that interventions to address this problem should consider the distinct needs of women. In making this recommendation, we echo Ma et al. [88], who identified that a lack of gender-specific designs in gig-work platforms leaves women vulnerable to harassment.

We also found that the frequency of experiencing cyber *hostility & gossip* and *exclusion* generally increased in proportion to the frequency of going to one's office. Although this contradicts Project Include's [60] 2021 survey result indicating that hostility increases with remote work, one possible explanation is that they did not compare remote and other workers during the same period, so the increased hostility they observed since the pandemic began might be due to elevated social tensions in the United States [35] rather than remote work. On the other hand, our results are consistent with another survey [16] finding that remote workers experience less workplace bullying overall. They attribute that to an overall reduction in communication among remote workers, but this may not explain our results since our models controlled for the frequency of using various communication channels, and remote work results in *more* frequent communication for some workers [102]. Another possibility is that remote workers are less aware of when some forms of incivility are occurring. In particular, gossip and exclusion may be less visible when working remotely, even if they are still happening.

Beyond the frequency of cyber incivility incidents, the main survey and interview participants had mixed opinions about how remote work influenced their quality and impact. Some asserted that remote colleagues are less filtered and thus rudier, which aligns

with prior work about online disinhibition [138], or that hostility could encroach into their home, since boundaries between work and home may be blurred by remote work [23]. By contrast, others noted that remote work made it easier to avoid hostile coworkers and to limit identity-based stereotyping, and that cyber incivility was generally easier to ignore than in-person incivility. This is consistent with prior research about women's experience with virtual disrespect, where some expressed relief that they could easily avoid disrespectful people when working online, while others felt online work exacerbated some difficulties [136]. This suggests that digital communication tools' reduced interpersonal cues and lower sense of personal connection may increase generalized hostility. However, these same factors might buffer against some *selective incivility* [26], where individuals are targeted based on identity-related characteristics.

The remainder of the results concerned the main survey participants, who represent remote/hybrid workers who frequently experience at least one form of cyber incivility. We observed a clear negative relationship between well-being and exclusion frequency. This is consistent with findings that ostracism harms well-being by threatening basic human needs for belonging [41] and that exclusion moderates the relationship between negative workplace gossip and organizational well-being [134]. Additionally, given that social isolation has been identified as a potential harm of remote work [141], it is possible that exclusion is especially threatening in a remote context. On the other hand, we observed a positive relationship between the frequency of *hostility & gossip* and *work well-being*, although not other dimensions of well-being. The apparent positive relationship between *hostility & gossip* and work well-being appears counterintuitive. As stated in the results, alternative models described in this paper's supplementary documents suggested that hostility frequency negatively and gossip frequency positively relate to well-being, but that they are tightly interrelated. Participants asserted that the capacity of in-person work for impromptu conversation increased both hostility and gossip frequency. Thus, both are likely associated with workplace environments and cultures that promote casual communication, which may explain why variables measuring *frequency* of these behaviors were highly correlated. Regarding the perceived *severity* of these behaviors, qualitative results suggested that impactful experiences of cyber hostility negatively affect well-being. However, we did not observe evidence that cyber gossip was similarly impactful. Further, experiencing gossip may indicate that one is socially connected [139], which is likely to improve well-being [117]. Therefore, hostility and gossip may have conflicting impacts on well-being, and the potentially positive effects of gossip may have outweighed the negative effects of hostility when predicting work well-being.

Regarding RQ3, our results showed that hybrid workers who frequently go to the office have better opportunities for peer support than those who work mainly from home, which could mitigate the negative effects of incivility. Specifically, when describing how and why they responded (or did not respond) to cyber incivility, participants indicated a clear preference for in-person communication to convey their feelings more clearly, to better understand their interlocutor, or to be discrete. Discretion was especially important: Most wanted to seek support from a small set of trusted allies and did not want their complaints to reach the wrong person, which

might result in retaliation or escalating their complaint into a major ordeal. Consistent with prior research [17], some interview participants associated remote work with difficulties forming trusting relationships and initiating informal communications.

In sum, the conditions created by remote work seem to provide buffers that reduce some forms of cyber incivility. However, those same conditions also make it more difficult to seek colleague support after cyber incivility occurs. As the HCI community designs future systems to support remote and hybrid work, it is essential to consider these merits and demerits. The worst-case scenario is that future workplaces increase the potential for incivility and stifle opportunities for colleagues to support each other. In the next section, we reflect on future directions to avert such an outcome, and to work towards arrangements that reduce incivility while encouraging effective support.

6.1 Design implications

6.1.1 Guarding against incivility. Often, HCI/CSCW research about interacting with remote colleagues has focused on addressing challenges posed by distance [107] by increasing the accessibility of informal and social communication [70, 85, 129], enhancing co-presence amid deficit of social cues, when compared to in-person communication [78, 145]. Our results about support-seeking affirm the importance of that work, but we also found evidence that the distance imposed by remote work can insulate against multiple forms of cyber incivility to some extent. This demonstrates the value of enacting communication barriers to reduce harmful communication.

A significant body of work has sought to enact such barriers through content moderation – monitoring communications to automatically identify and remove inappropriate comments [4, 21, 58]. In work contexts, researchers have investigated automated content moderation in open source software [40, 118, 122] and workplace emails [14, 46, 150]. While these approaches have promise, they may struggle to accurately detect work-related incivility due to its low intensity and linguistic subtlety [121]. Further, exclusion – which appears to be the most harmful form of cyber incivility among our participants – may not be verbal, and so may elude language-based detectors entirely. Moreover, even when monitoring technologies are deployed to support workers' well-being, workplace surveillance appears to negatively affect workers' well-being [11, 48], false-positives could cause reputational or professional damage [14], and it is challenging to ensure that workplace monitoring employs meaningful consent [24].

Another approach has been to address hostility by introducing design frictions to promote mindful communications [79]. For example, Abdulgalimov et al. [1] used temporal restrictions to enforce “adequate slowness” as a means to promote civility in an enterprise social network. Introducing new communication frictions, however, can cause frustration [93]. Thus, workers' interests may be better served by identifying the strategies and tools that are already working for them before introducing new design solutions [28]. Our results suggest that remote workers are *already* benefiting from features of their work structures when it comes to reduced incivility. Accordingly, we assert that some “limitations” of remote work should be re-interpreted as protective barriers. For example,

although the lack of support in current video conferencing systems for ad hoc, informal conversations has been regarded as a challenge [49, 133], this also appeared to reduce opportunities for impulsivity, which has been linked to cyber hostility [50]. Barriers to always-available communication can help people avoid conflict when they lack the power to resolve problems through confrontation, such as when there are differences in social or professional status Hwang et al. [57]. For example, Ford et al. [44] found that trans people may benefit from communication barriers associated with remote work because they can avoid disclosing marginalized aspects of their identity and can easily escape hostile situations by logging off. Some women in our study reported similar patterns. Insofar as women were more likely to be targets of cyber incivility than men, the reduced immediacy of many remote work contexts could explain some results in our study. Workplaces and technology providers may leverage this result by opting for low-richness or asynchronous communications in settings where incivility is most likely.

6.1.2 Facilitating social support. Although remote work can buffer against some forms of cyber incivility, it also limits access to social support, which is critical for mitigating the harm incivility can cause [2, 13]. Addressing this dual challenge requires preserving protective aspects of remote work while enhancing opportunities for meaningful social connection. Notably, since cyber exclusion can intensify social isolation, it is unlikely to be addressed by the communication boundaries discussed above, but it can be mitigated by social support [56].

One approach to improving social support is to foster trust and rapport through bonding activities. For workers within commuting distance, in-person gatherings aimed at bonding can help establish trusting relationships, which could then be leveraged when working remotely. For fully remote workers, structured activities during planned virtual events can fill the gap left by the absence of spontaneous interactions [146]. For example, digital games designed to build trust have proven effective in distributed teams [34].

In addition to fostering trust, HCI scholars have proposed technologies for connecting peers, such as matchmaking systems to connect peers with shared experiences [51, 128], and online support platforms [51, 59, 71, 143], which may be useful for connecting peers within large organizations or who have similar experience but don't work in the same organization. Technologies that could facilitate group discussions about incivility issues may be especially impactful, since our results showed that group digital communications were associated with practical and emotional effectiveness for addressing incivility, yet were rarely used. For example, Abdulgalimov et al. [1] proposed a platform for workers to have anonymous, moderated discussions about workplace issues. This is a promising approach, but trust in platform administrators may be a challenge, especially among people seeking support about workplace incivility.

Given participants' esteem for the richness of in-person support, immersive technologies such as social VR are promising. Researchers have recognized that social VR's immersiveness and utility for engaging in shared activities can enrich digital peer support [45, 144] and argued that carefully designed VR workspaces can enable rich informal communication [111].

In extreme cases, such as highly toxic workplace cultures or for workers who are extremely isolated, virtual agents can provide a fallback solution. A large body of HCI research has examined the potential of virtual social support agents [30, 64, 89, 90, 97, 112, 119, 149, 151, 152]. For example, interacting with a support chatbot can mitigate the negative emotional impacts of social exclusion [30], which could help address the clear negative relationship we observed between cyber exclusion and well-being. Virtual agents may also provide nonjudgmental validation, satisfying participants' desires for a second opinion [87, 140]. However, their lack of insider knowledge limits their ability to offer practical advice, and some users may feel disconnected from bots' emotional support [149].

These proposals come with some caveats. First, participants highlighted the importance of discretion, which emphasizes that privacy is essential to reducing fears of retaliation when seeking support. To address this, companies could provide channels for off-the-record communications, including side channels during meetings [100], unlogged communications over a company network, or allowing the use of external communications such as private phone calls. Second, while increasing access to ad hoc, informal, communications can increase support opportunities, it also risks reproducing conditions that facilitate workplace incivility – underscoring the need for interventions that strike a balance between fostering connection and preventing harm.

6.2 Limitations and future directions

Our study has several limitations that could be considered in future research.

Self-report data. Our reliance on self-reports may introduce biases from misremembered or misrepresented experiences. Future research could triangulate findings with observational data or third-party reports.

Measuring hostility and gossip. The correlation between hostility and gossip frequencies limited our ability to isolate them as separate variables in the quantitative models. However, interviews and open-ended responses indicate that these phenomena are qualitatively distinct. This limitation may partly reflect the composition of our scales or an especially strong correlation between hostility and gossip in digital contexts. Another implication of this result is that, even though most efforts to measure workplace incivility rely on frequency [e.g., 27, 83, 92], this may obfuscate important differences in severity or quality of incivility experiences. Thus, workplaces and organizations should combine frequency measures with qualitative or other data to identify where and how to provide the best support.

Regression model for RQ1. Diagnostics of the regression models for RQ1 revealed some residual patterns that suggest potential model limitations. This may result from the influence of unmeasured latent constructs like workplace culture or coworkers' personalities. It is not surprising that the model may not fully capture these influences. However, the robustness of the findings is supported by our use of a mixed-methods approach, which helps triangulate and contextualize the results. Future work could enhance the model by incorporating richer data sources to better capture these latent constructs.

Sampling strategy. The sampling strategy for the main survey and interviews focused on participants with frequent experiences of cyber hostility, gossip, or exclusion, ensuring relevance to the study's focus. However, this approach may have systematically excluded individuals who experience infrequent but severe incidents of incivility. Future research could address this gap by employing broader recruitment strategies or explicitly oversampling participants with diverse experiences.

Non-binary representation. The low number of non-binary participants in our study limited our ability to identify generalizable patterns about the intersection of non-binary gender identities and cyber incivility. Future research could explore non-binary people's experiences more thoroughly, possibly through oversampling or targeted recruitment strategies.

Participant generalizability and contextual factors. Participants were US residents recruited through Prolific, which allowed us to access a diverse participant pool of remote and hybrid workers. Still, our sample may not fully represent the broader population of hybrid and remote workers, particularly in terms of industry, job role, or geographic distribution. Additionally, our analysis does not account for industry or job-type differences, and although *income* may represent social and/or organizational status to some extent, our model does not explicitly account for differences in job title or rank. Finally, all participants were US-based. Future research should examine how cyber incivility experiences vary across cultural and workplace contexts.

7 Conclusion

Through surveys and interviews, we investigated the dynamics of three types of cyber incivility and post-incivility social support among remote and hybrid workers in the United States. Our findings reveal that remote work structures both mitigate and exacerbate certain aspects of cyber incivility. Among our participants, Remote workers experienced less frequent *hostility & gossip* and *exclusion* than hybrid workers. Additionally, women faced higher levels of incivility compared to men, regardless of work arrangement. Exclusion stood out as the most obviously harmful form of cyber incivility, significantly impacting workers' well-being. We also discussed ways that working remotely creates barriers that discourage seeking support, even though participants believed such support to be helpful.

Based on these results, we discussed ways that the field of HCI can increase opportunities for social support in remote and hybrid workplaces while retaining remote work affordances that seem to protect against some forms of cyber incivility. By addressing these areas, organizations can reduce the harms of cyber incivility and foster healthier, more supportive environments for remote and hybrid employees.

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A Appendix: Scale items and factor loadings

A.1 Frequency of experiencing disrespect

We defined three constructs of digital incivility, drawing largely from Martin and Hine [92]. As described in Section 4.1.2, the *hostility* construct was significantly different in order to reflect the conditions of digital communication, as well as recent work on cyber hostility, and minor changes were made to *gossip* and *exclusion*.

The final scale was as follows:

Hostility:

- H1: Shouted at you or used inappropriate language (e.g., profanity, insults)
- H2: Said something hurtful, demeaning, or insulting to you.
- H3: Expressed stereotypes based on gender, race, sexuality, or other characteristics.
- H3: Criticized you to a degree that was excessive.

Gossip:

- G1: Publicly discussed your confidential information.
- G2: Made snide remarks about you.
- G3: Gossiped or talked about you behind your back.

Exclusion:

- E1: Did not consult you in reference to a decision you should have been involved in.
- E2: Intentionally failed to share information you should have been made aware of.
- E3: Were unreasonably slow in seeing to matters on which you were reliant on them for, without good reason.
- E4: Ignored your questions or disregarded your comments.

In order to make the survey easier for participants, it was slightly shortened. Compared to Martin & Hine's [92] scale, two *gossip* items were merged into G3: "Talked about you behind your back" and "Gossiped behind your back." In the exclusion scale, "Avoided consulting you when they would normally be expected to do so" was dropped due to similarity to E1, and, "Was excessively slow in returning your phone messages or e-mails without good reason for the delay" was dropped due to similarity to E3.

As reported in Section 4.3.1, the hostility and gossip items were correlated to a degree that the resulting factors had poor indiscriminate validity. Therefore we merged them into a single category called *Hostility and Gossip*. Loadings for the resulting model are described in Table 7.

A.2 Well-being and quit intention scales

Table 8 presents the factor loadings for this paper's measures of well-being and quit-intention. Well-being measures are based on the Employee Well-being Scale [153] and quit-intention measures are based on Lim and Teo [83].

Table 7: Scale items and standardized factor loadings for measuring the frequency of experiencing digital incivility at work.

Factor	Loading	Item
Hostility & Gossip	0.73	Shouted at you or used inappropriate language (e.g., profanity, insults)
	0.79	Said something hurtful, demeaning, or insulting to you.
	0.69	Expressed stereotypes based on gender, race, sexuality, or other characteristics.
	0.84	Criticized you to a degree that was excessive.
	0.60	Publicly discussed your confidential information
	0.85	Made snide remarks about you.
	0.83	Gossiped or talked about you behind your back.
Exclusion	0.80	Did not consult you in reference to a decision you should have been involved in.
	0.84	Intentionally failed to share information you should have been made aware of.
	0.81	Were unreasonably slow in seeing to matters on which you were reliant on them for, without good reason.
	0.81	Ignored your questions or disregarded your comments.

Table 8: Parcelled scale items and standardized factor loadings for measuring well-being.

Factor	Parcel	Loading	Item(s)
Life well-being	Parcel 1	0.93	I feel satisfied with my life. Most of the time, I do feel real happiness.
	Parcel 2	0.87	I am close to my dream in most aspects of my life.
	Parcel 3	0.95	I am in a good life situation. My life is very fun.
Work well-being	Parcel 1	0.95	I find real enjoyment in my work. I feel basically satisfied with my work achievements in my current job.
	Parcel 2	0.96	In general, I feel fairly satisfied with my present job. I can always find ways to enrich my work.
	Parcel 3	0.96	I am satisfied with my work responsibilities. Work is a meaningful experience for me.
Psychological Well-being	Parcel 1	0.85	I generally feel good about myself, and I'm confident. I love having deep conversations with family and friends so that we can better understand each other.
	Parcel 2	0.84	I handle daily affairs well. People think I am willing to give and to share my time with others.
	Parcel 3	0.84	I feel I have grown as a person, during this stage of my life. I am good at making flexible timetables for my work.
Quit intention	Parcel 1	0.89	I will probably leave my organization within the next 1–2 years.
	Parcel 2	0.99	I will probably look for a new job in the next year.
	Parcel 3	0.98	I will actively look for a new job in the next year.

B Appendix: Multinomial logistic regression predicting quit intention

Table 9: Multinomial logistic regression model predicting quit intention. Medium and high quit intention are compared to a reference category of low quit intention. The low pseudo- R^2 indicates that the model has weak predictive power. Note: 10 participants who declined to answer demographic questions were excluded from these regression models since they include demographic covariates.

	Medium Quit Intention	High Quit intention
Cyber incivility frequency		
Hostility Gossip	0.016 (0.20)	-0.169 (0.21)
Exclusion	0.244 (0.27)	0.568* (0.27)
Demographic variables		
Gender = Non-binary	0.849 (1.26)	0.626 (1.29)
Gender = Woman	0.514 (0.34)	0.241 (0.34)
Race = White	-0.212 (0.35)	-0.399 (0.35)
Income	-0.195 (0.15)	-0.197 (0.16)
Age	-0.232 (0.17)	-0.342* (0.15)
Constant	-0.354 (0.39)	-0.256 (0.36)
Pseudo R^2	0.033	
N	248	