True Connections: High-Quality Connections in a Post-COVID-19 Landscape

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By

Alyssa Birnbaum

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2023
APPROVAL OF THE DISSERTATION COMMITTEE

The dissertation has been duly read, reviewed, and critiqued by the Committee listed below, which hereby approves the manuscript of Alyssa Birnbaum as fulfilling the scope and quality requirements for meriting the degree of Doctor of Philosophy in Psychology with a concentration in Positive Organizational Psychology.

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Abstract

True Connections: High-Quality Connections in a Post-COVID-19 Landscape
By
Alyssa Birnbaum
Claremont Graduate University: 2023

As companies loosened in-office requirements as a response to the COVID-19 pandemic and employees increasingly started working remotely or in a hybrid fashion, interpersonal dynamics amongst coworkers shifted while burnout skyrocketed. This research integrates relational cultural theory, resource-based theories (e.g., conservation of resources theory; Hobfoll, 1989), transmission-based theories (e.g., crossover model; Westman, 2001) and media theories (e.g., media naturalness theory; Kock, 2004) to highlight the importance of relational interactions and assess whether those interactions can still thrive in a virtual setting. These studies investigate high quality connections (HQCs; Dutton, 2003) – momentary, dyadic, positive interactions – among coworkers to better understand the following research questions: 1) How do HQCs impact burnout and work engagement? 2) What antecedents of HQCs are relevant? 3) Does media naturalness (i.e., the degree that a communication medium feels like a natural interaction) impact HQCs?

I conducted two studies using a sequential mixed methods design. In Study 1, two surveys were distributed several days apart, and participants were asked to engage in the Day Reconstruction Method (DRM; Kahneman et al., 2004) during the second timepoint to capture the range of interactions participants engaged in throughout their workday. I measured HQCs’ relationship with work engagement and exhaustion, Dutton’s (2003) proposed pathways to HQCs (i.e., respectful engagement, task enabling, and trusting), the effect of media naturalness
(i.e., in-person vs. camera-on videoconference vs. audio or camera-off videoconference) and how media naturalness impacts the relationship between HQC’s pathways and HQCs. Hierarchical regression results from Study 1 (n = 247) revealed that higher levels of HQCs predicted greater end-of-day engagement and lower end-of-day exhaustion. The proposed pathways each individually predicted HQCs, but none of them predicted HQCs in a full model. Multilevel modeling results indicated that audio interactions were less effective at producing HQCs than other forms of interactions, but there was no significant difference between in-person and camera-on videoconference interactions. Furthermore, the pathways did not moderate the relationship between media naturalness and HQCs. In all the tested relationships, burnout (as a control variable) continuously explained the largest proportion of the overall variance, suggesting that it influenced HQCs and its effects. In sum, although HQCs’ pathways warrant further investigation, the Study 1 results demonstrated that engaging in higher quality connections throughout the day led to greater engagement and less exhaustion at the end of the day, and that phone calls or camera-off videoconferences were less likely to generate HQCs than in-person or camera-on videoconferences. The findings also suggest that burnout plays a critical role, as burnt out participants were less prone to engage in HQCs or reap the benefits of HQCs.

In Study 2, I qualitatively assessed HQCs and media naturalness via 22 semi-structured interviews to code different themes in relation to HQCs and fill the gaps around how and why HQCs occur in different contexts, and how HQCs impact employees’ energy. Analyzing the data using reflexive thematic analysis (Braun & Clarke, 2006), I adopted a social constructionist epistemology, a predominantly inductive approach, and a combination of semantic and latent coding (with an emphasis on latent coding). I identified nine themes that both elaborated upon and extended the Study 1 findings. The first themes, categorized under energizing and depleting
interactions, include: 1) not all energizing interactions are HQCs, 2) exhausting interactions often come from notoriously difficult individuals, 3) a sense of accomplishment can lead to simultaneous feelings of energy and exhaustion, 4) managers and team climate influence the quality of team member interactions, and 5) sustaining high-quality relationships requires effort and HQC renewal. The second batch of themes, categorized under virtuality and media naturalness, include: 6) the transition from in-person to remote and from remote to in-person require an acclimation period, 7) working in-person generates more interpersonal benefits whereas working virtually confers more personal benefits, 8) in-person interactions are more energizing, for better and for worse, and 9) although camera-on videoconferencing is more beneficial overall for HQCs, there are reasons when camera-off is sufficient.

This research aims to ignite HQC research in a post-COVID-19 and increasingly dispersed work landscape. I propose a conceptual model to amplify HQCs in the workplace to encourage new avenues for research. I also offer a range of practical implications for organizations, managers, and individuals to both cultivate HQCs (e.g., recommendations to support and reward relational practices) and encourage balance by preventing burnout (e.g., suggestions to measure burnout and manage employees’ workloads).
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# Table of Contents

Abstract ........................................................................................................................................ iv

Acknowledgements .................................................................................................................. vii

Table of Contents .................................................................................................................. xi

Chapter 1: Introduction .......................................................................................................... 1

Chapter 2: Literature Review ................................................................................................. 5

Burnout and Work Engagement .............................................................................................. 5

Burnout ....................................................................................................................................... 5

Work Engagement ..................................................................................................................... 7

Burnout and Work Engagement Through a Relational Lens ................................................. 10

Resources and Crossover ......................................................................................................... 11

High-Quality Connections ....................................................................................................... 16

Tie Features of HQCs .............................................................................................................. 18

Subjective Experiences of HQCs ............................................................................................ 19

Physiological Features of HQCs .............................................................................................. 23

Similar But Distinct Constructs ............................................................................................... 23

Outcomes of HQCs: Work Engagement and Burnout ............................................................ 25

HQC Antecedents ..................................................................................................................... 27

Remote Interactions and HQCs: The Challenge of Virtuality ................................................. 35

Videoconferencing .................................................................................................................. 38

Media Naturalness Theory ....................................................................................................... 41
Study Design ........................................................................................................................................... 42

Chapter 3: Study 1 .................................................................................................................................... 44

Research Question 1 ................................................................................................................................. 44
Research Question 2 ................................................................................................................................. 44
Research Question 3 .................................................................................................................................. 45

Method ...................................................................................................................................................... 47

Participants and Procedure ....................................................................................................................... 47
Operationalization of HQCs ....................................................................................................................... 49
Measures ................................................................................................................................................... 51

Data Analysis ........................................................................................................................................ 55

Study 1 Results ....................................................................................................................................... 56

Hypothesis Testing for Research Question 1: How do HQCs impact burnout and work engagement? .................................................................................................................................................. 59
Hypothesis Testing for Research Question 2: What antecedents of HQCs are relevant?.............. 68
Hypothesis Testing for Research Question 3: Does media naturalness impact HQCs?............ 73

Study 1 Discussion ................................................................................................................................ 76

Study 1 Limitations & Future Research ................................................................................................. 80
Study 1 Conclusion .................................................................................................................................. 82

Chapter 4: Study 2 .................................................................................................................................... 84

Method ...................................................................................................................................................... 85

Participants and Procedure ....................................................................................................................... 85

Study 2 Results & Discussion .................................................................................................................. 89
Energizing and Depleting Interactions................................................................. 91

Virtuality and Media Naturalness ......................................................................... 105

Chapter 5: General Discussion............................................................................. 121

Key Findings and Theoretical Contributions....................................................... 121

Proposed Conceptual Model to Amplify HQCs in the Workplace....................... 128

Strengths ............................................................................................................... 132

Practical Implications.......................................................................................... 133

Conclusion ............................................................................................................ 138

References............................................................................................................ 139

Appendix A........................................................................................................... 171

Scales for Study 1 .................................................................................................. 171

Appendix B........................................................................................................... 176

Semi-Structured Interview Guide (Modified for In-Person or Office Participants)........ 176
Chapter 1: Introduction

With the ramifications of COVID-19 (e.g., shifting to remote work, managing quarantining children, enhancing precautions for elderly care, longer work hours), growing racial tensions, and burgeoning economic strain, burnout has increased and become a focal topic of attention (Spiner, 2022). These tensions have also encouraged people to re-evaluate their jobs from a holistic perspective. The consequences of the great resignation – or the great reshuffling – are mounting pressure on companies to do more for their employees to reduce turnover. Beyond compensation, employees want meaning, recognition, and alignment with their interests and values (Smet et al., 2021).

There are many changes that organizations must consider adapting – not just for the sake of remaining competitive and attracting quality employees, but also for the genuine engagement and wellbeing of their workers. Burnout and work engagement are symptoms that elucidate the true pulse of an organization and whether it is operating effectively or mired in conflict, inequality, stress, toxic leadership, or unhealthy work patterns. Waiting until burnout is rampant before trying to fix the system relies on tertiary tactics that simply mitigate the effects of the problem (Maslach, 2018). Instead, through a positive psychology lens, cultivating an engaged workforce within a healthy work culture could help prevent burnout from occurring (e.g., Eckleberry-Hunt et al., 2018; Schaufeli et al. 2009).

One key element to producing engaged work cultures includes focusing on relational interactions by fostering an environment conducive to high-quality connections (HQC; Dutton, 2003). HQCs are positive interactions between individuals that vary in length but can enhance individuals’ and group’s capacities to produce resources (Baker & Dutton, 2006; Dutton, 2003). In my research, I focus on the HQCs themselves to amplify their importance, better understand
the mechanisms that drive them and thus bring more awareness to their benefits and how to engage in them.

In addition, given the increased transition to remote work and hybrid work patterns, I explore the ability to generate HQCs in virtual settings such as via videoconferences. This understanding can hopefully spur future research focused on cultivating work environments conducive to enhancing HQCs and investigations into its more distal outcomes, such as employee flourishing. Specifically, I focus on the following research questions:

1) How do HQCs impact burnout and work engagement?
2) What antecedents of HQCs are relevant?
3) Does media naturalness impact HQCs?

This research makes numerous contributions. First, although HQCs have been proposed nearly 20 years ago (Dutton, 2003; Heaphy & Dutton, 2003), empirical research on the topic is still in its infancy. Conceptual work from similar-but-distinct constructs (e.g., social support, positivity resonance) suggest HQCs contribute to employee wellbeing (e.g., Major et al., 2018), but there is limited research specifically focused on HQCs. Conceptually, HQCs lead to an array of positive outcomes (Stephens et al., 2012; Dutton & Glynn, 2008). However, given the widespread uptick in employees experiencing burnout (e.g., Galanis et al., 2021) and the value companies are placing on cultivating engaged workforces (Bakker & van Wingerden, 2020), it is critical to understand if there is a link between HQCs, burnout and work engagement and how connections can drive positive wellbeing outcomes. HQCs are distinct in that they do not require a relationship precedent to occur, they do not rely on transactional exchanges, and they do not require in-person interactivity. HQCs are therefore more flexible and likely to occur than many
other related constructs and can spark a variety of positive outcomes, making them instrumental for understanding employee connections and wellbeing.

Second, the research on HQCs and related constructs often focuses on copresence of the people making those connections. Employees can send and receive more sensory cues in-person, offering a richer template to elicit HQCs. Given the newfound reliance on virtual work for companies across the globe and the increased feelings of disconnect and isolation that remote workers experience (e.g., Toscano & Zappala, 2020), this research homes in on the range of virtual HQCs that could occur, from media-rich communication technology (e.g., videoconferencing) to less rich communication technology (e.g., phone calls). Although communication technology is more limited in its ability to offer sensory exchange and naturalness compared to copresence, it is critical to employee wellbeing when in-person interactions are not an option.

Third, past research that exists on virtual interactions does not account for the newer technological advancements and widespread adoption of virtual tools in this post-COVID-19 environment. As the number of remote workers grew hybrid modes of working became increasingly commonplace as offices re-opened (Gallup, 2022), employees had to navigate technology that supported both virtual and in-person collaboration. Videoconferencing tools such as Zoom and Microsoft Teams ballooned in use since COVID-19 closed offices in 2020 (Evans, 2020; Thorp-Lancaster, 2020). Given these changes, employees are more adept at using these videoconferencing tools and better equipped to generate HQCs via online medium than past research might indicate.

Finally, much of the research based on Dutton’s (2003) seminal work still investigates high-quality relationships rather than high-quality connections (e.g., Brueller & Carmeli, 2011;
Carmeli, 2009; Carmeli et al., 2009). The present doctoral research emphasizes connections, which relate to the “micro-bits of interrelating at work” (Stephens et al., 2012, p. 2), and do not require time-intensive, enduring, or dedicated relationships. According to Dutton, they can occur the first time people meet, even during a brief encounter, and still generate mutual growth and elicit positive benefits.

The research design of this dissertation offers mixed methods to narrow in on essential elements of HQCs for remote workers, first through quantitative methods measuring multilevel moderations and linear regressions via the day reconstruction method, and then through semi-structured qualitative interviews.

This dissertation proceeds as follows: first, a literature review covers burnout and work engagement from a relational perspective and integrates relevant theoretical models to explain the relational mechanisms. These mechanisms lead to a focus on HQCs, its contributors, and specifically focusing on the potential for videoconference interactions to generate HQCs. Next, a description of two studies explains the empirical methods tested and their findings, including a discussion of the limitations and future research for each study. Finally, a general discussion will include theoretical and practical implications and a conclusion.
Chapter 2: Literature Review

Burnout and Work Engagement

Both burnout and work engagement play a critical role in this research, so a foundational understanding of each construct is necessary to lay the groundwork. After reviewing the evolution of and relationship between burnout and work engagement, I will focus on the importance of viewing them through a relational lens.

Burnout

Burnout, a chronic, stress-induced, workplace-specific syndrome, was first conceptualized in scientific literature from two qualitative researchers in the mid-1970s – Freudenberger (1975) and Maslach (1976) – and focused on jobs in human services and health care. Although varying definitions and scales emerged over the years (e.g., the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981) and the Oldenburg Burnout Inventory (OLBI; Demerouti, 1999)), the most widely accepted conceptualization follows Maslach’s model with three dimensions: 1) feelings of energy depletion or exhaustion, 2) depersonalization or cynicism, and 3) reduced professional efficacy (Maslach & Jackson, 1981). The first dimension, related to emotional exhaustion, describes the sustained state of fatigue and depletion related to job demands (Shirom, 1989). Many burnout scholars agree that the core component of burnout is the emotional exhaustion component because it impacts the quality of work-life and optimal organizational functioning (Cherniss, 1993; Cordes & Dougherty, 1993; Wright & Bonnet, 1997; Zohar, 1997). It is the most frequently measured dimension of burnout (Kristensen et al., 2005) and some researchers suggest that it is the first indication of burnout, before the remaining dimensions (cynicism and inefficacy; Cordes & Dougherty, 1993; Leiter & Maslach, 1988).
second dimension, which was originally characterized as depersonalization and later broadened to cynicism, is related to cognitive distancing and often links to exhaustion (Maslach et al., 2001). Inefficacy is a reduced feeling of personal, professional efficacy or sense of accomplishment (Maslach et al., 2001). The three components of burnout are specific to work-related stress and although they tend to endure over a longer timeframe, burnout is distinct from general adjustment, depression, anxiety or mood disorders (Maslach & Jackson, 1981).

Burnout can lead to a host of crippling outcomes. A Gallup study found that burned out employees are 63% more likely to take sick days, 2.6 times as likely to be actively looking for other jobs, and experience 13% lower confidence in their performance (Wigert & Agrawal, 2018). Employees suffering from burnout are dissatisfied with opportunities for personal growth and development at their job, want to spend less time with other people, and experience impaired relationships with coworkers, staff, clients, and family (Maslach & Jackson, 1981). Burnout is positively related to turnover (Jackson et al., 1986) and substance abuse (Brown et al., 2009). Burned out individuals experience decreases in mental health, such as decreased self-esteem and increased depressive symptoms, irritability, helplessness, and anxiety (Jackson & Maslach, 1982; Kahill, 1988).

Burnout not only negatively impacts mental health, but physical health as well. It is a risk factor for obesity and bodily disorders (Shirom et al., 2005). Fatigue, insomnia, and gastrointestinal disturbances are among the physical health impairments experienced by burnt-out individuals (Kahill, 1988).

Work-related stress such as burnout is also extremely costly. Workplace stress accounts for an estimated $117 billion to $190 billion in health care costs in the United States annually, somewhere between 5-8% of national spending on healthcare, and over 120,000 deaths (Goh et
al., 2016). Overall, the ramifications on work quality and commitment, physical and mental health, and monetary costs are consequential.

**Work Engagement**

The construct of work engagement emerged and evolved years after burnout was conceptualized, originally as its positive antidote (Schaufeli & Salanova, 2007) and emerging with the promotion of positive organizational psychology (Seligman & Czikszentmihalyi, 2000). Kahn (1990) described work engagement as “harnessing of organization members’ selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances” (p. 694). Key elements in Kahn’s conceptualization include the notion that employees exert effort in their work because they identify with it, the emphasis is on work tasks over the job itself, there is a multi-dimensionality of personal resources that influence engagement, and that levels of work engagement could fluctuate momentarily.

The relationship between work engagement and burnout sparked debate as to whether the constructs exist on the same continuum or whether they are distinct constructs. Maslach and Leiter (1997) suggested that work engagement was the antithesis of burnout, offering three components – energy, involvement, and efficacy – that juxtaposed the 3 dimensions of burnout (i.e., exhaustion, cynicism, and inefficacy). However, Schaufeli et al. (2002) believed that work engagement was independent from burnout, though still negatively related. According to Schaufeli et al. (2002), work engagement is a “positive, fulfilling, work-related state of mind that is characterized by vigor, dedication and absorption” (p. 74). Vigor is the energy dimension, characterized by mental resilience and persistence. Dedication relates to the involvement one experiences in their work and experiencing inspiration, significance, enthusiasm, and challenge.
Absorption describes the engrossing nature of work, where people are focused and actively homed in on their work activities.

To test the distinction between burnout and work engagement, Schaufeli et al. (2008) studied 587 telecom managers to determine whether burnout and work engagement, as well as workaholism, could be distinguished empirically. They used the Maslach Burnout Inventory – General Study (MBI-GS; Maslach & Jackson, 1981) to measure burnout and the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2002) to measure work engagement. Structural equation modeling demonstrated that three distinct, but correlated, constructs best fit the data, suggesting that burnout, work engagement, and workaholism are separate constructs. In addition, multiple regression analyses showed that the three constructs were differentially related to other variables, such as job characteristics and quality of relationships. Again, this reaffirmed the separation of the constructs overall.

Despite these distinctions, there appeared to be similarities between two of the three dimensions of work engagement and burnout: vigor and exhaustion seem to be opposites, as well as dedication and cynicism (e.g., Demerouti et al., 2001; De Vries et al., 2004, Schaufeli & Bakker, 2004, 2003). Gonzalez-Roma et al. (2006) found that exhaustion and vigor comprised of one bipolar dimension (energy) and cynicism and dedication comprised of another (identification), suggesting that two of each of the three dimensions are opposite one another on a single continuum. However, when looking at the constructs in their entirety, work engagement and burnout are often moderately negatively related, with correlations typically ranging from −.30 to −.65 (for an overview see Schaufeli & Salanova, 2007).

Although more nuanced conceptualizations of work engagement arose over the years, reviews have assessed common threads among the range of definitions. Macey and Schneider
(2008), for instance, found that employee engagement “is a desirable condition, has an organizational purpose, and connotes involvement, commitment, passion, enthusiasm, focused effort, and energy so it has both attitudinal and behavioral components” (p. 4). Christian et al. (2011) pooled together a consensus definition as they reviewed the literature for their meta-analytic research. They define work engagement as “a relatively enduring state of mind referring to the simultaneous investment of personal energies in the experience or performance of work” (p. 95). This definition focuses less on the outcome (e.g., being a desirable condition with organizational purpose) and positive framing (e.g., connoting passion and enthusiasm) and instead emphasizes some of Kahn’s key components, such as focusing on work tasks and the multi-dimensionality of personal resources and suggests that it is relatively enduring over time. It also aligns with Schaufeli et al.’s (2002) conceptualization of the three dimensions of work engagement (i.e., vigor, dedication, and absorption), which is currently the most common definition and the source for the most frequently used scale (Bakker et al., 2008).

That said, there is also evidence that work engagement, measured by all three dimensions per Schaufeli et al.’s conceptualization, can vary day-to-day. Sonnentag (2003) initially conducted a diary study and found that day-level recovery impacted work engagement and proactive behavior the next day. Diary studies from Xanthopoulou et al. (2008; 2009) and Bakker and Xanthopoulou (2009) further reinforced the notion that work engagement can fluctuate on a daily basis.

Just as burnout leads to a slew of negative outcomes, work engagement, on the flip side, leads to an array of beneficial outcomes. For instance, work engagement leads to employee’s psychological and mental health (Koyuncu et al., 2006; Laschinger & Finegan, 2005), job performance (Christian et al., 2011), customer loyalty (Salanova et al., 2005), financial returns
and decreased turnover intention, sickness, and absenteeism (Halbesleben & Wheeler, 2008; Schaufeli & Bakker, 2004; Schaufeli et al., 2009). As summarized by Bakker et al. (2008), engaged employees demonstrate better in-role and extra-role performance, which in turn leads to greater customer and client satisfaction and better financial results.

**Burnout and Work Engagement Through a Relational Lens**

Although a range of antecedents can lead to burnout and work engagement, it has been suggested that there may be a relational component as well. For instance, Maslach et al. (2001) suggest that employees experiencing burnout can negatively impact their colleagues, turning burnout into a contagious phenomenon. Maslach et al. (2001) also contend that research on burnout, at its inception, was focused on an individual’s “relational transactions in the workplace” (p. 400) rather than as an individual response to stress. Relationships between employees and their recipients, like healthcare workers and their patients, and also between employees and their coworkers or family members, were sources of emotional strains, rewards, and even coping mechanisms that led to, prevented, or helped individuals manage burnout.

Moreover, because individuals are all connected in interconnected social systems, if even one person starts to experience stress or strain, others around them will feel the impact (Bakker et al., 2009) and cause it to spread. Researchers suggest it may transfer between people in contact with one another (Cherniss, 1980; Edelwich & Brodsky, 1980). For example, Rountree (1984) found a trend that highly burnt-out individuals tended to work with other highly burnt-out individuals, whereas less burnt-out individuals worked with other less burnt-out individuals. A multilevel analysis of over 2,000 constabulary officers demonstrated that team-level burnout was significantly related to an individual team member’s burnout, even when controlling for each
member’s job demands and resources (Bakker et al., 2006). In another study, higher levels of teacher burnout were associated with higher cortisol levels in students, indicating that physiological reactions of burnout transferred between teachers and students (Oberle & Schonert-Reichl, 2016). A recent study by Meredith et al. (2020) used social network analysis to demonstrate that burnout was contagious among teachers. Given this evidence, it is imperative to investigate personal relationships in relation to burnout.

Similarly, although there are numerous personal or agentic characteristics that facilitate work engagement, many are inherently relational. In Christian et al.’s (2011) meta-analysis, they mentioned several relational job characteristics, including feedback, social support, and leader-member exchange, as a means of promoting work engagement. Empirically, researchers suggest that relational interactions can encourage work engagement, including high levels of social resources like innovative climate, supervisor support and supportive social climate (Hakanen et al., 2006), relational energy (Owens et al., 2016), and social support (Schaufeli et al., 2009). Research also suggests that work engagement can spread between employees (Westman et al., 2009) and within teams (Bakker et al., 2006; 2009).

To better understand the relational antecedents to burnout and work engagement, such as how work colleagues can impact each other’s burnout or how work engagement can spread, I focus on conservation of resources theory and the crossover model. These theoretical models suggest that resource exchange and mobilization, including relational resources, are critical to causing or mitigating burnout and work engagement.

**Resources and Crossover**

**Conservation of Resources (COR) Theory.** COR theory is based on the premise that “individuals strive to obtain, retain, foster, and protect those things they centrally value” (Hobfoll
et al., 2018, p. 104). Per COR theory, resources include objects, personal characteristics, conditions, or energies (Hobfoll, 1989) but could be expanded to anything perceived to help an individual attain their goals (Halbesleben et al., 2014). Hobfoll (1989) suggests that burnout is triggered when there is a resource loss, a threat of resource loss, or when something does not present anticipated returns, which causes employees to protect their resources. Without sufficient emotional resources to handle work stressors, employees will retreat to protect the resources they still have and manage their burnout by withdrawing, avoiding others, minimizing their job involvement, and feeling less motivated to perform well (Halbesleben & Bowler 2007; Leiter, 1991), which have been shown to lead to lower job performance and turnover (Wright & Cropanzano, 1998). Yet by withholding their resources, employees are not only affecting the quality of their own work, but also the work of others around them, triggering a resource loss spiral. Resource exchange is an interpersonal process (Bolger et al., 1989), so employees who withhold their resources are also impacting those around them (e.g., by not helping their peers or completing their portion of the work properly). In turn, this exacerbates their colleague’s stressors, diminishing the resource pool available to the work unit, which can trigger the spread of burnout.

On the flip side, COR theory helps explain the enhancement of work engagement from a resource perspective; when employees have ample resources, such as when they are experiencing work engagement, they are better suited to share their resources to support their colleagues and invest their resources for future personal gains. Because resources beget further resources (Hobfoll et al., 2018), an engaged workforce will accumulate and grow their resources over time, further enhancing employees’ experience of work engagement and triggering upward gain spirals.
Although COR theory helps explain what types of relational antecedents can spur burnout and work engagement, it does not elaborate on how burnout and work engagement can spread and diffuse. For example, if employees are collaborating on similar projects or work on a team that shares the same task, then if one person perceives that their workload and time pressure is too demanding, the others could follow suit regardless of whether the workload is objectively too much for them to handle. Since employees can all have similar levels of both demands and resources, they may unconsciously use their colleagues to cue and trigger their burnout (Bakker et al., 2001; Gonzalez-Morales et al., 2012). In addition, employees who are burnt-out are more likely to make mistakes at work or take days off (Kahill, 1988), which could then impose additional work onto their teammates who need to compensate for their burnt-out colleague’s subpar work (Bakker et al., 2003).

To better understand the mechanisms driving the transfer of relational antecedents, I focus next on the crossover model and related transmission theories. I elaborate on the crossover model, a key transmission-based theoretical model, by weaving in the socially induced model of burnout and emotional contagion.

The Crossover Model. The crossover model, or a “dyadic, inter-individual transmission of stressors or strain” (Bakker et al., 2009, p. 207), suggests that individuals who frequently interact with one another, including coworkers, are more prone to crossover of both strain and engagement (Westman, 2001). Whereas earlier definitions of the crossover model emphasized the transmission of stress or strain between individuals, such as anxiety, burnout, perceived health, and work-family conflict (e.g., Bolger et al., 1989) and focused on spouses (Burke et al., 1980), later definitions suggested that crossover between individuals could apply to both positive and negative states and couple apply to individuals in the workplace (Westman, 2001).
Crossover can transfer across work networks to team members (Bakker et al., 2006; 2009) and could theoretically expand to organizations (Shirom, 2011). This broadened definition and understanding of crossover helps provide a basis for understanding the mechanisms of the spread of burnout between employees.

Three mechanisms explain this transmission process: direct crossover, indirect crossover, and spurious crossover. Direct crossover is the direct transmission through empathetic reactions (Westman, 2001). It is similar to the concept of emotional contagion, as both transmit emotions and behavior via direct interactions. Emotional contagion was initially defined as a means through which an individual or group can influence the behavior or attitude of others via a conscious or unconscious transfer of emotions (Schoenewolf, 1990). Hatfield et al. (1994) defined it more narrowly as an unconscious transfer of emotions, describing it as “the tendency to automatically mimic and synchronize facial expressions, vocalizations, postures, and movements with those of another person’s and, consequently, to converge emotionally” (p. 153-154). Although speaking is key to expressing ideas, nonverbal communication is more important for picking up on others’ emotions (Mehrabian, 1972). Therefore, to trigger the spread of emotions, Barsade (2002) suggests that individuals need to interact directly (i.e., in-person). As such, if someone is weighed down by stress and fatigue inherent in burnout or driven by energy and dedication inherent in work engagement, they can transfer similar emotions to their colleagues when they interact with them. This transferal process occurs automatically and unconsciously, as many people are not aware that their interactions are transforming their emotions. In the context of work, emotional contagion has been shown to spread emotions within organizations (Petitta & Naughton, 2015), which has been shown to cause the spread of burnout.
(Petitta & Jiang, 2020; Le Blanc et al., 2001) and work engagement (Decuypere & Schaufeli, 2020; Torrente et al., 2013).

Indirect crossover suggests there are intervening mediating or moderating effects that impact the transmission of someone’s experience (Westman, 2001). The socially induced model of burnout (Bakker et al., 2003) brings this phenomenon to life. The socially induced model of burnout suggests that team burnout accounts for a proportion of the variance in individual team members’ burnout (particularly for the exhaustion and efficacy dimensions), but that indirect effects also play an important role. Bakker et al. (2003) found that burnout can indirectly transfer to employees by impacting their working conditions such as job demands, social support and job control. The socially induced model of burnout suggests that working conditions, such as disrupting job tasks (Maslach et al., 2001), negative interpersonal contact (Leiter, 1988) or by directly or indirectly impacting an employee’s job demands, job control and perceived social support (Bakker et al., 2003) can cause burnout to spread.

Finally, spurious crossover is related to the spread of crossover caused by common stressors (Westman, 2001). Colleagues who share a similar stressful work environment with a toxic leader may all suffer from high levels of burnout, whereas a team motivated by meaningful work may all benefit from high levels of work engagement.

Given the potential for burnout and work engagement to spread directly or indirectly, it is critical to delve deeper into the relational interactions amongst colleagues. When positive, these interactions can help mitigate burnout and promulgate work engagement. When corrosive, these interactions can initiate the opposite chain of events. Specifically, I am concentrating on relational connections, HQCs, particularly the transmission of social resources and their corresponding benefits.
High-Quality Connections

Rather than focus on relational antecedents based on social exchange theory (e.g., Blau, 1964; Homans, 1974), which describes the transactional exchange between people (e.g., leader-member exchange), I am focusing on antecedents based on relational cultural theory (RCT), which focuses on mutually beneficial growth and development that occurs within connections (Miller, 1976; Miller & Stiver, 1997). According to RCT, which stems from feminist and multicultural roots (Comstock et al., 2008) and originated in psychotherapy (Miller, 1976), the traditional emphasis on individuality, competition, self-sufficiency, mastery, and separation (Jordan, 1999) negates the critical relational experiences experienced by women and minorities (Miller, 1976). Rather, RCT proposes a more inclusive model of relational development that encourages authenticity, mutual empathy, and mutual empowerment to foster growth.

HQC's follow the guidance of RCT, as they are momentary, dyadic, positive interactions (Dutton, 2003). Distinct from relationships, which imply an enduring association, connections imply that an interaction occurred between individuals who are both aware of the interaction (Dutton & Heaphy, 2003). Connections can vary in length and even recur, and the accumulation of recurring connections evolves into a relationship. According to Heaphy and Dutton (2003), connections do not exclusively imply positive, growth-fostering outcomes (as described by Miller & Stiver, 1997), but can also be growth-depleting if corrosive. Despite their potentially brief nature, Heaphy and Dutton (2008) note that HQCs can still be consequential. In fact, Dutton and Ragins (2006) suggest that positive organizational relationships, such as HQCs, are important resources at the individual, group, and organizational level. Baker and Dutton (2006) describe HQCs as enhancing the resource-producing capacities of individuals and groups. Thus, per COR theory, even momentary positive interactions can have enduring effects. The resources procured from HQCs can enhance the group’s social capital and enable them to accomplish their
goals in novel ways. For a visual of the earliest conceptual contributors, indicators, and consequences of HQCs from Dutton (2003) and Dutton and Heaphy (2003), see Figure 1.

**Figure 1**

*Conceptual Contributors, Clusters of Indicators, and Consequences of HQCs*

Dutton and Heaphy (2003) pose three “clusters of indicators” (p. 265) to demark the quality of connections. The first cluster focuses on the shared features of the ties connecting participants. The other two clusters emphasize individual experiences of each participant in the HQC: the second cluster focuses on subjective experiences, whereas the third focuses on physiological experiences. Dutton (2003) also explains the three pathways to HQCs: respectful engagement, task enabling, and trusting. Given my focus on burnout and work engagement, I will integrate research on burnout and/or work engagement as it pertains to certain indicators of and pathways to HQCs.
Tie Features of HQCs

Three defining characteristics designate a connection as high-quality: higher emotional carrying capacity, tensility, and degree of connectivity (Dutton & Heaphy, 2003). These characteristics focus on the ties connecting participants engaged in HQCs rather than on the participants individually.

**Emotional Carrying Capacity.** Emotional carrying capacity is related to the expression of more emotions, both positive and negative, in a constructive way (Dutton & Heaphy, 2003). Individuals who feel safe displaying the full range of emotions in their connections, from deep frustration to unbridled joy, benefit from greater emotional carrying capacity because they feel safe to speak up (Edmondson, 1999) and share their genuine feelings (Stephens et al., 2013). Stephens et al. also suggests that emotional carrying capacity is a key mechanism in both individual and team resilience, which leads to the next characteristic: tensility.

**Tensility.** Tensility is the degree of adverse impact that a connection can handle and the resilience to respond to hardships. Although resilience is often seen as an individual’s level of hardiness and ability to bounce back, Jordan (1992) reconceptualized resilience as a relational means through which quality connections can drive growth and beneficial outcomes. As reinforced by Hartling (2003), “resilience is all about relationships” (p. 2). Given this relational emphasis, tensility marks a connection’s strength in tough situations. Quality connections marked by high levels of tensility can withstand conflict and tensions in a way that elicits productive feedback (Brueller & Carmeli, 2011) and promote mutual growth.

**Connectivity.** Finally, connectivity measures the relationship’s degree of generativity and openness to different influences (Dutton & Heaphy, 2003). High levels of connectivity spur action and creativity while thwarting behaviors that would inhibit generative processes (Losada, 1999). Research has demonstrated that positive emotions, which are likely generated by the
positive interactions in HQCs, promote enhanced thought-action repertoires (Fredrickson, 1998; 2001), openness to new information (Estrada et al., 1997) and preference for variety (Kahn & Isen, 1993).

Subjective Experiences of HQCs

When a connection encourages higher emotional carrying capacity, greater tensility, and enhanced connectivity, individuals engaged in the HQC have three subjective experiences: vitality, positive regard, and mutuality (Dutton & Heaphy, 2003; Stephens et al., 2012). Even small exchanges, such as spending a few minutes in the beginning of a meeting to hear about how a colleague’s daughter’s soccer game went, or demonstrating that you’re fully present during exchanges, such as listening attentively and making eye contact when a subordinate comes to you with a question, can elicit feelings of vitality, positive regard, and mutuality. Below, I explain each subjective experience of HQCs.

Vitality. The first subjective experience, vitality, is “one’s conscious experience of possessing energy and aliveness” (Ryan & Frederick, 1997, p. 530). Energy emerges consistently as an outcome of relational connections and HQCs. For instance, Miller and Stiver (1997) suggest that empathetic connections generate energy, and Collins (1993) posed that increased focused, shared emotions, and solidarity between interacting individuals lead to higher levels of emotional energy. Dutton (2003) explains that all work interactions can generate or deplete energy, and that “energizing interactions are high-quality connections” (p. 7). However, vitality is distinct from the construct of energy because it solely focuses on the positive, whereas energy could imply forms of negative energy activations such as anger (Ryan & Frederick, 1997).
on energy at work. In fact, Baker et al. (2003) investigated the construct of relational energy, which is similar to the positive energy experienced from relational interactions. Relational energy is “a heightened level of psychological resourcefulness generated from interpersonal interactions that enhances one’s capacity to do work” (Owens et al., 2016, p. 37) or, put simply, work relationships that produce positive energy (Baker et al., 2003). Research has linked relational energy to engagement; Owens et al. (2016) found that relational energy was positively related to employee job performance, and the relationship was mediated by job engagement. In addition, Wang and Xie (2020) suggest that relational energy protects employees from workplace stressors and burnout because they are better equipped to cope with their work and tend to find ways to make their work enjoyable.

However, although energy emerges from interactions based on its definition, the operationalization of relational energy in research (e.g., Cross & Baker, 2003; Owens et al., 2016) focuses more on how an interaction affects the recipient’s energy level, essentially measuring the crossover of energy from one individual to another. This may be problematic when linked to HQCs. Is vitality, operationalized as relational energy by Baker et al. (2003), just an exchange mechanism given from one individual to another, or can it be a source of mutual growth and enhancement via HQCs? In other words, is this positive energy exchanged (i.e., rooted in social exchange theory) or mutually experienced (i.e., rooted in RCT)?

If energizers are simply elevating those around them, then the emphasis is not on the connection, but on the infusion of energy from the energizer to the recipient. Based on the qualitative portion of Owens et al.’s (2016) research and relational energy scale validation, they highlighted the benefits that energizers proffered onto others, from the way they influenced and motivated those around them to the way they attracted high performers and acted as critical
sources of information in their company. Per their definition and operationalization, the element of mutuality, a fundamental component of HQCs and RCT, is currently absent.

However, there is an indication that energizers also benefit from their interactions, making energizing interactions mutually beneficial. In Cameron’s (2021) book on positively energizing leadership, where he focused on positively energizing leaders, he talks about both the benefits to energizers (i.e., that relational energy is self-enhancing and advantageous, and energizers tend to be high performers) and to their recipients (i.e., that individuals flourish in the presence of energizers, and employees have greater engagement, well-being, satisfaction, performance, etc.). Seppälä and Cameron (2022) also suggest that relational energy is reciprocal and contagious, stating that an energizer “acts as a continual energy-boosting mechanism, which, in turn, produces an abundance of energy in the whole network. Energizers reproduce themselves, building networks of positive energizers around them, and that heliotropic effect expands to attract still more.” This suggests that energizing employees are enhancing the social capital of their work environment. Additionally, Quinn (2017) suggests that energy via HQCs build mutual resources (i.e., resources deemed valuable to get things done by all engaged participants) that are mutually beneficial. In turn, those resources enhance further connection quality, creating an upward spiral of positive quality connections. Applying COR theory, the energy resources resulting from HQCs are therefore not transactional (i.e., aligned with social exchange theory), but mutually and expansively beneficial (i.e., aligned with RCT), and could help generate resource gain spirals (Hobfoll, 1989).

**Positive Regard.** Although a core focus of HQCs is related to positive energy and vitality, feeling a sense of positive regard is also an important subjective experience of HQCs. A sense of positive regard (Rogers, 1951), which stemmed from person-centered psychotherapy,
encompasses “warmth, liking, respect, sympathy, acceptance” (Rogers, 1959, p. 208). A degree of genuineness is also considered a prerequisite to garner the experience of positive regard (Rogers & Truax, 1967).

Specific to HQCs, Dutton and Heaphy (2003) suggest that positive regard reflects the perception of feeling known or loved and signifies a sense of respect and care. Although love may feel like a weighty construct, Fredrickson (2016) proposed that love is a fleeting affective state marked by a pleasant connection with another person or people. In that sense, when an individual experiences a HQC, even if the interaction is momentary, they should sense an authentic sense of affirmation and care.

**Mutuality.** The third subjective experience is mutuality, or the feeling that connecting individuals are actively engaged and participative (Dutton & Heaphy, 2003). Jordan (1986) expands on the concept of mutual relationships, stating, “there is openness to influence, emotional availability, and a constantly changing pattern of responding to and affecting the other’s state. There is both receptivity and active initiative toward the other” (p. 2). In other words, the mutuality transcends passive exchange to a state where the individuals involved are both affectively and cognitively engaged and invested in both sharing and receiving each other’s truths. Jordan continues, explaining that it is essential to appreciate and be sensitive to the wholeness of the other individual and their personal experience, demonstrating the need for empathy and genuine intrigue towards the other individual to value and validate their unique qualities. Further, Jordan suggests that when empathy and concern are dually experienced, “there is an intense affirmation of the self and paradoxically a transcendence of the self, a sense of the self as part of a larger relational unique” (p. 2). In this sense, mutuality describes an elevated
relational state marked by authentic care and compassion towards the well-being of both the self and the other.

**Physiological Features of HQCs**

Finally, the last three indicators of HQCs posed by Dutton and Heaphy (2003) are the physiological changes that occur in the body: release of oxytocin, release of endogenous opiad peptides, and reduced systolic blood pressure. These three changes, spurred by HQCs, quell anxiety and stress, induce relaxation, calm the sympathetic nervous system (Altemus et al., 1997) and hypothalamic-pituitary-adrenocortical (HPA) stress response, and impacts cardiovascular health (Lepore et al., 1993).

In sum, HQCs are *short-term, positive interactions in which the individuals involved in the interaction harbor higher emotional carrying capacity, tensility, and degree of connectivity, subjectively experience vitality, positive regard, and mutuality, and physiologically release oxytocin and endogenous opiad peptides and experience a reduction in systolic blood pressure* (Dutton, 2003; Dutton & Heaphy, 2003).

**Similar But Distinct Constructs**

Several constructs are similar to HQCs. In fact, some articles highlighting the beneficial outcomes of HQCs use research of conceptually similar constructs. For instance, in Heaphy and Dutton’s (2008) review, they included a range of constructs that they felt tapped into positive relationships or connections, such as social support from coworkers and supervisors, perceived emotional support, interaction style, and general feelings of positivity and negativity from interactions. However, this broad swath of constructs does not properly differentiate constructs rooted in social exchange theory versus those rooted in RCT. They also do not specifically focus on connections, which can be fleeting and based on one-off conversations, rather than prolonged
relationships that evolved over time. Additionally, although empirical research insights from similar constructs lends support to tap into the effects of HQCs, there are still notable differences in the core meanings of each construct, which makes it challenging to investigate the antecedents, indicators, and outcomes of HQCs as proposed by Dutton (2003) and Heaphy and Dutton (2003). Below, I will distinguish between a few similar concepts: positivity resonance, leader-member exchange, and social support.

**Positivity Resonance.** Positivity resonance has the most conceptual overlap to HQCs. Fredrickson’s (2016) positivity resonance theory identifies a particular form of high-quality connection that she calls positivity resonance, which is very similar to a HQC. Although much of this research focuses on romantic partners (e.g., Otero et al., 2020; Wells et al., 2022), it also connotes connections between friends, coworkers, and even strangers. Fredrickson (2016) believed that three features were essential for positivity resonance: 1) shared positive affect, 2) mutual care and concern, and 3) behavioral and biological synchrony, which overlaps with the concept of emotional contagion. The overlap between positivity resonance and HQCs are notable: both focus on connections and generating positivity and are exemplified by caring and respect. However, Fredrickson believes that behavioral and biological synchrony is a core element and suggests that in-person sensory connectivity is an essential precondition. Without the opportunity to physically touch one another, produce eye contact, and synchronize physically, positivity resonance cannot be triggered. Meanwhile, HQCs do not explicitly require in-person engagement to build mutuality. Having explained these differences at the conceptual level, I will address and justify, in the measures section, the use of a Positivity Resonance Scale as an operationalization of HQCs.

**Leader-Member Exchange.** Leader-member exchange is a relational exchange between leaders and subordinates that garner mutual respect and project deepening trust and lasting obligations towards one another (Graen & Uhl Bien, 1995). Similar to HQCs, there is a positive relational component that is characterized by respect and trust. However, they are distinct constructs as 1) leader-member exchange presumes the relationship is only between a leader and
their subordinate whereas HQCs can occur between anyone, 2) leader-member exchange is rooted in social exchange whereas HQCs are rooted in RCT, and 3) leader-member exchange is based on a sustained relationship, whereas HQCs draw on connections, which can be brief as long as they are substantial.

**Social Support.** Social support is a ubiquitous construct denoting the extent people perceive supportive relationship with others (Wiesenfeld et al., 2001) and that these positive connections produce resource exchange or change in healthy behaviors (Uchino, 2004). Heaphy and Dutton (2008) argue that even though both social support and HQCs tap into positive connections, HQCs do not require an element of exchange. Similarly, Stephens et al. (2012) argues that HQCs build mutual growth through the connection itself, given its foundation in relational theory rather than through resource exchange per social exchange theory.

**Outcomes of HQCs: Work Engagement and Burnout**

HQC have been associated with a range of longer-term outcomes. However, research specifically focused on HQCs (rather than related constructs) is still relatively nascent. HQCs have been shown to increase one’s capacity to think and create (Carmeli et al., 2015). It also increases one’s capacity to adapt to change and demonstrate resilience (Stephens et al., 2012). Dutton and Heaphy (2003) suggest that most studies on positive connections capture the longer-term effects of HQCs such as optimal living (Ryff & Singer, 1998) and higher well-being (Uvnäs-Moberg, 1997) because increased positive social connections tend to alleviate physiological stress responses (Seeman et al., 1997), lead to extended life expectancy (House et al., 1988) and generally strengthen the immune system (Seeman, 1996). In her book, Dutton (2003) also proposes that there are individual consequences to HQCs (i.e., physical and psychological health, task engagement, and learning) as well as organizational consequences
(i.e., enhanced cooperation, enhanced coordination, employee attachment, organizational learning, and effectiveness).

Specific to work engagement, Heaphy and Dutton (2008) elaborate on the consequences of these positive connections, proposing a link between relational connections and work engagement in their theoretical model. They suggest that organizational contexts that infuse positive relational connections among their practices, culture, and leadership, fuel experiences of positive social interactions at work. Those experiences then trigger physiological benefits, which ultimately lead to a range of benefits, including work engagement. Through the lens of COR theory, HQCs offer critical resources to individuals, which then leads to work engagement and a range of positive outcomes. Given the negative correlation between work engagement and burnout, I can infer that HQCs could similarly lead to lower levels of burnout.

Based on COR theory, HQCs should fuel work engagement and mitigate burnout because they offer supportive, interpersonal resources. As alluded to previously, Christian et al’s (2011) meta-analysis demonstrated that relational resources similar to HQCs like social support and high-quality relationships with your supervisor could spur work engagement. For example, a two-wave longitudinal study from Salanova et al. (2006) showed that teachers’ resources, including job resources like social support climate, predicted their levels of flow (which Salanova et al. (2010) describes as a “psychological state akin to work engagement” (p. 121)) eight months later. Additionally, a study by Xanthopoulou et al. (2008) found that colleague support impacted flight attendants’ work engagement and self-efficacy. Mentoring, which should demonstrate positive exchanges like HQCs, has also been shown to lead to work engagement (e.g., Baran, 2017; Lin et al., 2021; Wang et al., 2018). Research findings by Breevaart et al. (2015) suggest that employees in high-quality LMX relationships benefit from greater resources.
in their work environment, which in turn leads to enhanced work engagement and job performance. Given that research on social support, mentoring, and LMX have all facilitated work engagement, it is likely that HQCs, which similarly characterize positive interactions, should likewise lead to higher levels of work engagement.

There is also evidence that certain job resources that are interpersonal in nature can curb burnout. For example, resources such as support from supervisors and reassurance of worth were correlated with lower levels of burnout in two dimensions: emotional exhaustion and lack of personal accomplishment (Woodhead et al., 2016). In addition, a study by Prins et al. (2007) showed that medical residents dissatisfied with emotional and appreciative support from their supervisors were more burnt out.

In all of these instances, COR theory’s corollary on resource caravans comes into play – job resources and personal resources reciprocally impact and fuel one another, and the accumulation of resources generate work engagement (Salanova et al., 2010). In the same way, the resources conferred through HQCs should spark additional job and personal resources, which should then enhance work engagement and minimize burnout.

With the understanding of the indicators, proximal outcomes, and more distal outcomes of HQCs, it is important to also understand what antecedents foster HQCs. As such, I explain the three contributors to HQCs: respectful engagement, task enabling, and trusting (Dutton, 2003).

**HQC Antecedents**

Dutton (2003) describes the daily actions that encourage HQCs. She explains that contextual factors, such as structuring the reward system to value relational interactions, the physical office layout, and leadership can create an environment conducive to HQCs, but heavily focuses on the quality of day-to-day interactions – respectful engagement, task enabling, and
trusting – that she believes are instrumental in driving HQCs. In her later work with Stephens and Heaphy (Stephens et al., 2012), they expand the original HQC contributors, suggesting that respectful engagement, task enabling, and play are the behavioral mechanisms driving HQCs. They also describe cognitive and emotional mechanisms that encourage HQCs, but given the focus of this research on behaviors that contribute to HQCs, I will expand upon the three original contributors (respectful engagement, task enabling, and trusting), as well as play, since it falls under her behavioral mechanisms with several of those constructs later on.

**Respectful Engagement.** Dutton (2003) considers respectful engagement as the first pathway to generating HQCs, but she also talks about them as intertwined with one another: respectful engagement produces HQCs and HQCs produce respectful engagement. Respectful engagement occurs interpersonally through interactions that bestow a sense of worth and value (Carmeli et al., 2015), including “being present to others, affirming them, and communicating and listening in a way that manifests regard and an appreciation of the other’s worth” (Dutton, 2003, p. 22). These respectful engagements energize individuals and empower them, boosting their self-esteem and making them feel closer to the person conferring that sense of affirmation.

Received respect is a distinct construct, though it is often conflated with respectful engagement (e.g., Rogers et al., 2017). Received respect indicates a confirmation of one’s sense of worth and value as a human (Margolis, 2001) and demonstrates whether a person is valued and respected in their group or organization (De Cremer & Tyler 2005; Smith & Tyler, 1997). Respect has a range of definitions in the work setting, varying from competence-based respect (based on perceived ability, e.g., Fiske et al., 2002; Fiske et al., 1999) to a more relational form of liking-based respect (based on likeability, e.g., Branscombe et al., 2002; Ellemers et al.,
In general, respect represents one’s standing in an organization and whether they are valued members (Bartel et al., 2012).

Respectful engagement, on the other hand, conveys “how respect is put into practice” (Stephens & Carmeli, 2017, p. 15) given the importance of interactions and communications in conferring a sense of respect from others. Rather than focusing on the impetus for higher levels of perceived respect (i.e., competence or liking), respectful engagement is a more humanizing approach to interpersonal connections that is not bestowed as an indication of status or as an exchange for good work, but rather exchanged as a base level of human value and worthiness. Interpersonal connections imbued with respectful engagement are mutually enhancing, so both members benefit.

Importantly, respectful engagement is considered resource generative (Dutton, 2003). Relational resourcing theory (Friedman et al., 2018) suggests that positive interactions at work, including respectful engagement, produce resources like energy and confidence that facilitate employees’ discretionary behaviors. By enhancing discretionary behaviors, employees can act in ways that benefit and give back to the organization at large and add to the company’s social capital, or “the goodwill that is engendered by the fabric of social relations and that can be mobilized to facilitate action” (Adler & Kwon, 2002, p. 17). For instance, respectful engagement has been shown to foster creativity (Carmeli et al., 2015) and knowledge-sharing (Gupta et al., 2020), enhance organization and task performance (Basit, 2019), and encourage help-seeking behaviors that contribute to job performance (Friedman et al., 2018). These add value to the social network of the company. From a COR perspective, respectful engagement is not only enhancing the resources of each employee involved in the interaction, but fuels discretionary
behaviors that can add to the pool of resources available to everyone in the organization, thus enhancing their social capital.

**Task Enabling.** Task enabling is the second pathway to HQCs, as it describes the different ways that individuals assist one another to help them achieve their goals (Dutton, 2003). Rather than relegate enabling behaviors to leadership (e.g., enabling leadership, a leadership function within complexity leadership that supports innovation and adaptability; Uhl-Bien & Arena, 2018), Dutton believes task enabling can occur beyond hierarchical levels, suggesting leaders, subordinates, and colleagues are all capable of enabling one another.

Further, Dutton describes three ways that task enabling develops stronger HQCs. First, it generates resource flows, which in turn triggers the resource investment principle from COR theory; resource investment helps individuals continue to gain resources while also protecting them against resource loss or aiding in their recovery from losses (Hobfoll et al., 2018). In turn, this resource investment generates positive social capital that can flow throughout the organization (Baker & Dutton, 2006). Second, task enabling demonstrates positive regard and affirmation to the recipient, as an individual’s enabling actions suggest that they value and care for the other person. Third, it amplifies the task enabler’s personal sense of worth and identity. Given that authentic pride (i.e., pride associated with accomplishments that boost feelings of self-worth; Tracy & Robins, 2007) motivates people to help others and perform more virtuous acts (Brosi et al., 2016; Michie, 2009), task enabling can then trigger the gain spirals described in COR theory (Hobfoll, 2018) by encouraging further task enabling and supportive behaviors.

Task enabling conceptually overlaps with instrumental support, a type of social support (House, 1981). When offering instrumental support, individuals offer tangible help or concrete goods and services to assist others (Cohen & McKay, 1984; Krause, 1986). Langford et al.
(1997) suggests that even though instrumental support demonstrates care and love, as aligned with Dutton’s (2003) suggestion that task enabling demonstrates positive regard and affirmation, it is distinct from emotional support. Emotional support is an intangible form of support characterized by empathy, love, and trust (House, 1981; Krause, 1986). However, the combination of instrumental and emotional support has a profound impact. For instance, Morelli et al. (2015) found that instrumental support increased the well-being (based on lower levels of loneliness, perceived stress, and anxiety, and higher levels of happiness) of both providers (i.e., those helping others) and recipients when the providers were emotionally engaged when offering support. This demonstrates the mutually beneficial advantage of task enabling when individuals feel invested in others rather than when their actions are rote and mindless. Specific to burnout, results from a meta-analysis of social support indicated that greater instrumental support was associated with decreased levels of all three burnout dimensions (Mathieu et al., 2018).

Given the evidence, teams with higher levels of task enabling should be more likely to engage in HQCs among their individual team members.

**Trusting.** According to Dutton (2003), trusting comprises of integrity, dependability and benevolence. Although trust is generally based on social exchange, Dutton (2003) talks about a process of mutual trusting, which relates more to the concept of *interpersonal trust.* Six (2007) defines interpersonal trust as a “comprising the intention to accept vulnerability to the actions of another party, based upon the expectation that the other will perform a particular action … a reciprocal process in which both parties are involved interactively in building trust” (p. 290). Research from Chen et al. (2008) on research and development project teams supports the link between connections and interpersonal trust, as they found that social interactions and mutual trust were positively correlated in their study. Similarly, Levin and Cross (2004) found that tie
strength, which is related to strong interpersonal connections, was related to competence- and benevolence-based trust in teams.

Dutton (2003) explains why trusting should conceptually yield HQCs. The process of mutual trusting, or interpersonal trust, builds expectations of trustworthiness and integrity among both participants. Through trusting, individuals feel that the other person is acting in their best interest, allowing them to reveal their true selves without managing their emotional display. She also suggests different ways to build trust, such as sharing valuable information, self-disclosing vulnerable information, using inclusive language, delegating important tasks, actively requesting and implementing input, minimizing micromanaging and surveillance, and more.

Relevant to work engagement, trust is often paired with leadership styles in relation to employee work engagement in the literature. For instance, Engelbrecht et al. (2014) conducted structural equation modeling among various employees in South Africa to find that ethical leadership was associated with trust in the leader, which then influenced employee work engagement. The same team also found that leader integrity encouraged ethical leadership, which in turn influenced leader trust and ultimately led to increased employee work engagement (Engelbrecht et al., 2017). Hassan and Ahmed (2011) assessed Malaysian bankers and found that authentic leadership influenced leader trust, which promoted employee work engagement. Wong et al. (2010) also tested the impact of authentic leadership in nursing, finding that it encouraged managerial trust and work engagement, which then led to voice behavior and care quality in the unit.

However, horizontal trust (compared to the vertical trust in leadership-subordinate relations) is also integral for work engagement. Empirical research supports peer-to-peer trust as well. For example, Chughtai & Buckley (2013) tested trust among Irish research scientists in top
management compared to trust in team members, finding that both influenced employee work engagement through separate means (i.e., organizational identification mediated the relationship between top management and work engagement, whereas team psychological safety mediated the relationship between team members and work engagement).

Based on the evidence, teams with higher levels of trust would thus be more likely to develop HQCs among their individual team members.

**Play.** Although not highlighted in Dutton’s earlier writings on HQCs (i.e., Dutton, 2003; Dutton & Heaphy, 2003), play was later integrated as another behavioral mechanism that contributes to HQCs (Stephens et al., 2012). Play is a complex, multifaceted, and ambiguous term (Sutton-Smith, 2009), but Stephens et al. (2012) define play in terms of Stone’s (1989) definition. Stone claims that play includes a set of criteria, including activities that contain social rules that can be learned through participation, contain repetitive elements, actively involve people, elicit benefits inherent to the activity itself, possess risk, and extend beyond the self.

Stephens et al. (2012) suggest there are two reasons that play prompts HQCs: 1) by loosening the formal rules of engagement and exchange without compromising work goals, individuals are better equipped to learn about one another and connect at a deeper level (Lilius et al., 2011) and 2) play prompts the dissolution of the rules and patterns that guide individuals’ display rules and formalities and instead fosters interpersonal risk taking, immersion with the activity, and diminished self-consciousness (Czikszentmihalyi, 1990; Eisenberg, 1990).

Although research on play often centers around child development, play-based team building exercises research can also offer insights on the effects of playing from an organizational perspective. Team building is one of the most utilized organizational interventions (Klein et al., 2009), and it has become increasingly prevalent over time. Since the COVID-19
pandemic, there was a reported 2500% increase in interest in online and virtual team building activities to reduce feelings of isolation and enhance connectedness (Alexis, 2022).

There is evidence that certain forms of team building can bring colleagues together to socialize and enhance their communication. Research on team video games demonstrated enhanced cooperation and group cohesion (Keith et al., 2018). Video games encourage social communication (Ellis et al., 2008), offering opportunities for socioemotional communication (i.e., social messaging) that are positively valenced (Peña & Hancock, 2006) and mitigates the risk of failure by creating a safe and fun atmosphere (Keith et al., 2018). Cultivating social communication and increasing cooperation and group cohesion could lend itself to creating an environment more conducive to engaging in HQCs.

Icebreakers are another form of play employed to stimulate conversation, openness, and a sense of connection (Chlup & Collins, 2010). A small study found that icebreaker activities in an online learning environment encouraged collaboration and sense of community (Dixon et al., 2006). In another study measuring instructor and student perceptions, a vast majority of instructors rated icebreakers (93.8%) as either important or very important for peer-to-peer engagement in online educational settings (Bolliger & Martin, 2018). Although t-tests demonstrated that students rated icebreakers significantly lower than instructors, the results still suggest that students perceived icebreakers to be important (averaging 4.08 out of 5 on a Likert scale measuring levels of importance). Questions and activities that spark conversation to “break the ice” in a playful way can therefore also spur positive interactions such as HQCs.

Given the evidence, play in the work context should spur HQCs.

In sum, Dutton’s (2003) and Stephens et al.’s (2012) four proposed antecedents, respectful engagement, task enabling, trusting, and play, should each positively influence HQCs.
However, there are additional complications when workers are not interacting with one another in-person. In the following section, I describe some challenges with the burgeoning prevalence of remote work and virtual correspondence.

**Remote Interactions and HQCs: The Challenge of Virtuality**

As workers abruptly shifted out of their offices due to the COVID-19 pandemic, the casual water-cooler conversations that once transpired dissipated as workers switched to virtual settings. Virtual teams, characterized by dispersed team members operating and communicating via information communication technologies to complete their tasks (Gibson & Cohen, 2003), became the norm now that many offices turned remote or hybrid. According to Gallup (2022), when they compared pre-pandemic 2019 location data to February 2022 data for employees in remote-capable jobs, they found a drastic shift: whereas only 8% of pre-pandemic workers were exclusively remote in 2019, 39% were remote in 2022. Additionally, whereas 32% of pre-pandemic workers were hybrid (which was defined as spending more than 10% but less than 100% of the time working remotely) in 2019, 42% were hybrid by 2022. Employees fully on-site dropped from 60% pre-pandemic to 19% in 2022.

Remote workers tend to suffer from social exclusion and isolation (Pyöriä, 2011; Weisberg & Porell, 2011), and the mass exodus to pandemic-enforced remote work led to similar challenges. Maintaining healthy, collaborative, and productive virtual workers can be challenging for many reasons, from technological struggles, increased workloads, and blurred boundaries between work and home, but strained social relationships (between managers and their employees, as well as amongst colleagues) are substantially adding to the demands that remote workers face (Graves & Karabayeva, 2020).
For years, researchers have suggested that virtuality cannot replace face-to-face interactions in terms of building positive social capital via interpersonal relationships. For instance, Cohen and Prusak (2000) argued that virtual communication reduces the range of communication between individuals; those interactions tend to be brief, purpose-driven, and intermittent rather than serendipitous, casual, and free-forming, and it is easier for observers to disappear or get distracted if they are not actively engaged in the conversation. Fredrickson (2016) similarly states that a core precondition for positivity resonance is sensory connection, which can only occur through copresence. Interacting in-person heightens the range of potential sensory conditions that individuals can experience, including touch, sound (e.g., voice), or sight (e.g., viewing someone’s posture, gestures, or facial expressions).

Recent empirical research has also highlighted some challenges in connecting or reaping the benefits of social capital in virtual settings. Towner et al. (2021) examined social isolation, loneliness, mental health, and virtual social interactions among participants who worked from home due to the pandemic and found a significant decrease in mental health, happiness, and social satisfaction. Importantly, they did not find an association between the frequency of interactions occurring online and either happiness or depression, indicating that an influx in virtual meetings did not offset the effects of remote work. Evidence also emerged from research on positivity resonance, which, as previously noted, is a similar construct to HCs as it denotes high-quality interactions (Fredrickson, 2013; 2016). In their study, Major et al. (2018) conducted ancillary analyses to investigate whether the type of social interaction (i.e., face-to-face, phone/video media, and mediated communication such as email or texting) impacted positivity resonance. Their findings supported their hypotheses; more time communicating via enhanced sensory connections (i.e., face-to-face communication) was associated with higher levels of
perceived positivity resonance rather than communicating via technologically mediated means (i.e., phone/video media and email/text). Given the absence of in-person conversations and the barrier of virtual interactions, there are new challenges for establishing HQCs among remote or virtual workers.

Despite the evidence, there is a crucial need to resolve the hindrance posed by virtual work now that fully remote or hybrid work has become a stark and widespread reality. If, as proposed by the present research, HQCs generate integral energy resources that can support employee engagement, then it is crucial for workers operating in virtual capacities to have quality connections with their colleagues.

Based on preliminary theoretical contentions, I suggest that there is still potential that virtual interactions can be beneficial and still lead to HQCs, albeit in technologically-advanced online environments and when used appropriately and purposefully. Cohen and Prusak (2000), who dedicated ample space in their book highlighting the necessity of in-person interactions to build social capital, admit that virtual work “poses a challenge to social capital but is not always its enemy” (p. 156) and framed their arguments around the technology available at the time of writing, hinting that there may be opportunity for a more effective medium in the future. Fredrickson’s (2016) contention, that copresence is a precondition for positivity resonance, is followed by an assertion that “arguably, however, the main mode of sensory connection is eye contact” (p. 853). Given that eye contact is possible in video conferencing, there may be potential to generate quality connections if participants leave their cameras on. Cross and Parker (2004) also argue that technology can amplify work processes, but only after executives are grounded in how work is achieved and how relational affiliations develop. Baker and Dutton (2006) build on Cross and Parker’s argument, proposing that although technology cannot
promise to deliver HQCs, they can still play an important role because they enable interactions to occur. If those interactions are marked by respectful engagement, task enabling and trusting, they can help foster HQCs. In addition, Van Dyne et al. (2007) poses a conceptual model for employees in flexible work arrangements to counter the negative tendencies (i.e., diminished group motivation and coordination) exhibited by employees with reduced face-to-face interactions. They suggest that amplifying work practices that increase awareness of others’ needs and caring about group goals, in ways similar to respectful engagement (e.g., demonstrating proactive availability to show one cares and is committed to group goals), could promote positive outcomes such as enhanced group processes and organizational citizenship behaviors. Finally, Dutton and Sanders (2019) created a blog post to offer practical suggestions to build HQCs for remote work, such as encouraging employees to share personal information, appreciate each other’s strengths, establish expectations and guidelines for engagement, adjust onboarding tactics to welcome new hires, and practice inclusivity.

These propositions are all helpful starting points, but empirical research is needed to understand what challenges individuals face in virtual interactions, what individuals are doing to overcome those challenges, and how to create HQCs in a virtual setting. Although previous research on virtual interactions is helpful, the vast leap in technological advancement of communication software and its widespread use has altered the reality within which this research takes place.

**Videoconferencing**

Given that HQCs are characterized by mutuality, an indication that individuals are actively engaged and participating in their connection, I suggest that direct crossover and emotional contagion play an important role in transferring and extending positive emotions and
energy between those individuals. To help spur direct crossover and emotional contagion, it is likely most effective if sensory cues are exchanged, so the engaged individuals can pick up on each other’s gestures and facial expressions (e.g., Fredrickson, 2016; Hatfield et al., 1994; Russell & Fernandez Dols, 1997). In that regard, I propose that videoconferencing is likely the most effective means to generate HQCs in virtual work settings if telepresence technology is not available. This does not preclude the use of other technological forms of communication as effective means of interacting, such as instant messaging platforms, emails, and phone calls. Used effectively, all the aforementioned communication technologies serve an important purpose to enhance collaboration. However, videoconferencing is currently the most similar to in-person communication among the most popular communication technologies employed, and should therefore be the most advantageous for developing HQCs.

Use of videoconferencing grew exponentially since the start of the COVID-19 pandemic when employees abruptly began to work from home. Given its widespread usage, it is an appealing technology to develop HQCs. In terms of daily participants in 2020, Zoom increased over 350% to more than 300 million, Google Meet had over 100 million, and Microsoft Teams had 75 million (Evans, 2020; Peters, 2020; Thorp-Lancaster, 2020) – and it is likely that these numbers have continued to surge.

Videoconferencing allows for visual and auditory engagement with others, but there are some challenges that could hinder the development of HQCs. One major difficulty is the enervating effect of videoconferencing (e.g., “Zoom fatigue”), which can lead to both mental and physical exhaustion (Fosslien & Duffy, 2020). Bailenson (2021) provides four theoretical explanations for videoconferencing exhaustion. First, he suggests that prolonged eye gaze at a close distance can lead to fatigue for two reasons: 1) face sizes are amplified, making people
appear much closer to one another on a screen, a level of intimacy generally not exchanged between colleagues and friends, and 2) eye contact is continuous, and this is amplified with larger numbers of meeting participants all staring at one another. Second, he mentions cognitive overload, as individuals need to send additional cues (e.g., exaggerated nodding; Zubek et al., 2022; bigger smiles and louder vocalizations; Croes et al., 2019) and alter their interpretation of received cues (e.g., social signals such as eye contact are no longer realistic as a glance may indicate a distraction rather than an important social cue). Third, mirror anxiety, or the fact that self-views, such as those defaulted in most videoconferencing technologies, can amplify self-evaluation and trigger negative affect and fatigue. Mirror anxiety is particularly triggering for women, and this effect explains why women experience greater Zoom fatigue than men (Fauville et al., 2021). Finally, individuals on camera are physically confined to a tight space to remain in central view and close enough to type on their keyboard, constricting their mobility for extended periods of time.

Additionally, videoconferencing is much more limiting than face-to-face interactions, again adding more potential challenges to engaging in HQCs. Co-presence and life-size views of one another are eliminated, sensory cues related to touch and scent are not available, visual and auditory cues can be slightly delayed, and it is challenging for speakers to discern participants’ focus (Standaert et al., 2016; Karl et al., 2022). In turn, there are several ramifications: confusion and detachment when multiple conversations occur simultaneously, hesitancy to speak up for fear of speaking over someone (Kuzminykh & Rintel, 2020), increased likelihood of multitasking (Waizenegger et al., 2020), and challenges with coordination (Riedl, 2021).

Despite these challenges, I believe that videoconference meetings can enhance collaboration, engage attendees, and importantly, enhance connections between individuals if
conducted properly and purposefully. For instance, research that highlights best practices for meetings (e.g., Karl et al., 2022; Mroz et al., 2018), which are the most common reasons for engaging in videoconferences at work, illustrate the potential for quality interactions and productivity in meetings.

**Media Naturalness Theory**

A key theory to understand the positive potential of videoconferencing is media naturalness theory (MNT; Kock, 2004). Kock suggests that humans utilize more cognitive effort when communication mediums are less natural, which inhibits their ability to collaborate effectively. In contrast to media richness theory (Daft & Lengel, 1986) and social presence theory (Short et al., 1976), which both advocate for more (i.e., that richer communication modes or increased social presence are better), MNT does not promote quantity over quality. MNT advocates for interactions that are more “natural”, given that an over-saturation of richness or social presence are not consistently associated with positive outcomes (e.g., Markus, 1994; Rice, 1992).

According to Kock, naturalness is characterized by several elements naturally found in face-to-face interactions: physical co-location, synchronicity, and exchange of facial expressions, body language, and speech. Mediums that foster more naturalness are less cognitively taxing, making them more effective, particularly for people trying to connect with one another.

Videoconferencing allows for many of these natural exchanges to occur, particularly with advanced technology and under optimal conditions where internet signals, video and audio quality, and lighting are sufficient. For instance, individuals in video meetings with their cameras on can exchange facial expressions and speech. Body language is more limiting, but hand gestures and posture are still typically in view. Synchronicity is not perfect, but it is improving.
The only complete disconnect is co-location. As such, many of the underlying theoretical contributors towards building HQCs (i.e., trusting, task enabling, respectful engagement, and play) and capacities of HQCs (i.e., tensility, emotional carrying capacity, and connectivity) are still viable within videoconferencing platforms.

An important consideration to integrate into videoconferencing’s potential as a natural tool to use for connecting is Kock’s (2004) cognitive adaptation proposition. He suggests that the cognitive effort required for using a medium will decrease as participants adapt to the technology. In other words, as participants become more adept at conducting videoconferencing, their cognitive load to interpret interpersonal signals and collaborate effectively will not feel as taxed. Given that many workers employ videoconference technology daily, I can assume that their skill levels are increasing, and they are adapting to its use. Given this acclimatization, and the relative naturalness of the medium, videoconferencing can be ripe for building HQCs between employees.

Given the evidence, media naturalness should impact HQCs. Both in-person interactions and videoconference interactions with the camera on (i.e., that the participant can view their correspondent) are more natural forms of interactions, so they should amplify the ability to bridge HQCs. Less natural forms of interactions, such as audio-only interactions (such as phone calls, videoconferencing with the camera off, or an exchange of voice notes), would be less likely to foster HQCs.

**Study Design**

This dissertation used mixed methods to quantitatively assess HQCs via Day Reconstruction Method (DRM; Kahneman et al., 2004), and then qualitatively assessed HQCs via interviews coded using Reflexive Thematic Analysis (Braun & Clarke, 2006). Mixed
methods, which involves combining quantitative and qualitative data, enables “the broad purposes of breadth and depth of understanding and corroboration” (Burke Johnson et al., 2007, p. 123) while offsetting the biases and methodological weaknesses accompanying each method (Green, 2007).

In particular, this research used an explanatory sequential design (Creswell & Plano Clark, 2007), where a quantitative study was followed by a qualitative study. Due to its sequential nature, the questions posed in the qualitative study were informed by the quantitative findings. That way, qualitative data can help explain and provide context for the quantitative results and expand the findings with richer details.

The studies are constructed in this manner to leverage the benefits of each methodology and counterbalance the limitations. The first study is primarily deductive; to empirically measure Dutton’s (2003) proposed pathways to HQCs, assess whether HQCs link to elements of work engagement and burnout, and determine the impact of media naturalness on the relationship on the pathway’s relationship to HQCs. With sufficient sample size, it offers some generalizability of the findings (Martin & Bridgmon, 2012).

The second study builds upon the first through semi-structured interviews. Although limited in terms of generalizability, interviews enable a more in-depth, contextual, and insightful conversation (Queirós et al., 2017) to fill in the gaps around how and why HQCs occur in different settings and forms, and how HQCs impact burnout and work engagement. This study probes into the range of potential antecedents of HQCs beyond respectful engagement, trusting, and task enabling, along with an exploration of HQCs’ consequences and how the degree of media naturalness impacts HQCs.
Chapter 3: Study 1

Study 1 addressed all three proposed research questions quantitatively, measuring HQCs outcomes (work engagement and burnout), antecedents (respectful engagement, task enabling, and trusting), and whether media naturalness impacts HQCs. The following sections describe how each research question is analyzed in Study 1.

Research Question 1

The first research question asks: how do HQCs impact burnout and work engagement? Based on COR theory and the crossover model, HQCs generate supportive, interpersonal resources that should positively enhance work engagement while curbing burnout. Therefore, HQCs should be positively related to work engagement and negatively related to exhaustion, the core dimension of burnout. Figure 2 illustrates the hypotheses related to Research Question 1.

*Hypothesis 1. HQCs are positively related to work engagement.*

*Hypothesis 2: HQCs are negatively related to exhaustion.*

Figure 2

*Model of Study 1 Proposed Hypotheses 1 & 2*

Research Question 2

The second research question poses: what antecedents of HQCs are relevant? This study tests Dutton’s (2003) three proposed pathways to HQCs: respectful engagement, task enabling,
and trusting. The final proposed pathway to HQCs, play, is not included in the quantitative portion of this research because validated scales on play, particularly in relation to play in the context of work, are limited and not representative of the elements of play that I assess. Based on Dutton’s (2003) theorizing, respectful engagement, task enabling, and trusting should each be positively related to HQCs. Figure 3 illustrates the hypotheses related to Research Question 2.

_Hypothesis 3. Respectful engagement is positively related to HQCs._

_Hypothesis 4: Task enabling is positively related to HQCs._

_Hypothesis 5: Trusting is positively related to HQCs._

**Figure 3**

*Model of Study 1 Proposed Hypotheses 3, 4, & 5*

Research Question 3

The final research question is: does media naturalness impact HQCs? Media naturalness theory (Kock, 2004) proposes that the naturalness of the media of interactions impacts how cognitively taxing, and therefore how effective, interactions can be. In-person interactions, as well as videoconference interactions with the camera on (i.e., that the participant can view their correspondent), should therefore lead to HQCs. Additionally, in-person interactions and videoconference interactions with the camera on should positively moderate the relationships between HQC’s antecedents (i.e., respectful engagement, task enabling, and trusting) and HQCs.
On the other hand, audio-only forms of interactions (i.e., phone calls, videoconferencing with the camera off, or voice notes) would not lead to HQCs and would not significantly impact the relationship between HQC’s antecedents and HQCs. Figure 4 illustrates the hypotheses related to Research Question 3.

**H6.** Media naturalness will predict HQCs, with more natural interactions (e.g., in-person and videoconferencing with the camera on) predicting HQCs.

**H7.** Media naturalness and respectful engagement will interact in predicting HQCs, with more natural interactions (e.g., in-person and videoconferencing with the camera on) being more strongly related to HQCs when respectful engagement is high.

**H8.** Media naturalness and task enabling will interact in predicting HQCs, with more natural interactions (e.g., in-person and videoconferencing with the camera on) being more strongly related to HQCs when task enabling is high.

**H9.** Media naturalness and trusting will interact in predicting HQCs, with more natural interactions (e.g., in-person and videoconferencing with the camera on) being more strongly related to HQCs when trusting is high.

**Figure 4**

*Model of Study 1 Proposed Hypotheses 6, 7, 8, & 9*
Note. Given the multilevel nature of the analysis, L1 = Level 1 variables and L2 = Level 2 variables.

Given the episodic nature of HQCs, since they vary from one interaction to the next based on the dyadic correspondence, and the fact that memory cues rooted at the episode level minimizes biases (Major et al., 2018), I measured HQCs using the Day Reconstruction Method (DRM; Kahneman et al., 2004). The DRM was initially constructed as a less disruptive and burdensome form of experience sampling method (ESM) for participants that still minimizes retrospection biases by asking participants to reconstruct a diary of the episodes they encountered throughout the day (Kahneman et al., 2004) and then rate each episode based on their construct of choice.

For this study, rather than asking about every episode that each participant encountered, I focused on work interactions (such as interactions that occur in-person, via videoconference, or via audio). Thus, participants were asked to list each interaction that occurred with a work colleague (ranging from executives to direct reports/subordinates) and then answer several questions to describe the interaction. After completing the list of interactions, they are reminded of their responses for each interaction and answer a few questions about each one.

Method

Participants and Procedure

Participants were administered two online Qualtrics surveys via Prolific separated by at least a few days. They were assured that their responses would remain confidential.

Prolific participants were filtered to assure that they were at least 18 years of age, living in the United States or Canada, employed full time, and interacting with work colleagues during their workday. Both surveys contained attention checks; the first survey (T1) contained two
additional questions asking participants to select a specific response, and the second survey (T2) asked participants to write the text written on an image. Upon completion, participants were compensated $1.50 for T1 and $7.00 for T2.

I ran a power analysis on g*power (Faul et al., 1996) to estimate the number of participants needed to partake in the study for sufficient power. Using a low effect size (0.02) and 15 predictors yielded 954 participants. Given that the DRM requests each participant to reflect on all their interactions in a day, and the Major et al. (2018) DRM study found participants averaged 6.4 (Study 2) or 13 (Study 3) interactions per day, I divided 954 by 6 (the lower end of anticipated interactions) to get 159 participants, and initially aimed to collect data from 250 participants at T1 to compensate for attrition. Upon piloting the study, I noticed that participants averaged closer to 4.5 interactions per day. Therefore, I increased T1 to 400 participants and collected data from 272 participants in T2. The cleaned dataset included 247 participants.

Participants predominantly identified as male (n = 148; 60.0%) with only two participant identifying as non-binary and 1 participant preferring not to answer. They averaged 38.6 years old (SD = 10.3). A vast majority identified as white/Caucasian (n = 177; 71.7%), followed by Chinese (n = 17; 6.9%), Hispanic (n = 12; 4.9%), Black (n = 10; 4.0%), and fewer than 4% identifying as Korean, South Asian, Mixed, Middle Eastern, Filipino, and American Indian. Roughly half of participants held a 4-year college degree (n = 126; 51.0%), followed by a Master’s degree (n = 45; 18.2%), and less than 10% had some college experience (n=23; 9.3%), a 2-year college degree (n = 20; 8.1%), a high school degree (n = 18; 7.3%), a professional degree (n = 8; 3.2%), and a doctoral degree (n = 7; 2.8%). Among the participants, 132 held managerial positions (53.4%). Their average job tenure was 7.3 years (SD = 6.6). Participants
were asked what percent of the time they worked in the office, and they averaged 62.5% (SD = 37.8), suggesting they worked in the office more than half the time.

Participants were asked to identify and rate each work interaction from the day before. Given that surveys were only distributed during the latter half of the week (Wednesday through Friday), participants could only report their interactions between Tuesday and Thursday.

Participants were asked to rate each work interaction they engaged in during the prior day at work. On average, participants engaged in 4.5 interactions (SD = 2.13, range between 1 and 15 interactions) for a total of 145.5 minutes (SD = 139.0). In total, participants reported engaging in 1,115 interactions.

During T1, which was collected during April 2023, participants were asked about their general level of burnout, HQC’s antecedents (i.e., respectful engagement, task enabling, and trusting), followed by additional control (e.g., extraversion) and demographic variables. Between one day and 1 week after T1 was completed, eligible participants who expressed they were planning to work full-time in the upcoming weeks (i.e., not take part time off during those days) were offered to take T2. They first reflected on the previous workday and described their day-level engagement and day-level exhaustion, and then reflected on their work interactions and completed the DRM. For survey measures, see Appendix A.

**Operationalization of HQCs**

Empirical measures on HQCs directly based on Dutton’s (2003) conceptualization are limited. Carmeli (2009) measured high-quality relationships, and not connections, (i.e., tensility, emotional carrying capacity, and connectivity) and experiences of high-quality relationships (i.e., a sense of positive regard and feelings of mutuality), with feelings of vitality as an outcome to those capacities and experiences. These scales measure high-quality relationships, implying an
enduring relationship rather than an episodic connection, so they do not apply to the present research.

I assessed the features of the tie (tensility, emotional carrying capacity, connectivity), the subjective experience (mutuality, positive regard, vitality), and the physiological experience (release of oxytocin, release of endogenous opioid peptide, reduced systolic blood pressure) as highlighted by Dutton and Heaphy (2003) to determine what would best measure HQCs. Given that the subjective experience could be quantitatively assessed by participants reflecting on their day and applied to participants’ singular experience, I chose to focus on measuring the subjective experience for each interaction.

To measure HQCs, the seven-item perceived positivity resonance scale (from Major et al., 2018) was used. Although drafted to align to Positivity Resonance Theory (Fredrickson, 2016), Major et al. (2018) contend that items were also “inspired by Dutton and Heaphy’s (2003) theorizing on high-quality connections” (p. 1633), as well as high-maintenance interactions (Finkel et al., 2006). Positivity resonance assesses connections similar to HQCs but has two main differences: it requires co-location as a prerequisite and includes an element of behavioral and biological synchrony. However, none of the scale items explicitly reference co-location or behavioral or biological synchrony aside from asking whether the person felt “in sync with the other(s)”, which does not imply direct behavioral or biological synchrony. Thus, while positivity resonance and HQCs are different at the theoretical level, their distinctions are not evident at the operationalization level. The items in the perceived positivity resonance scale tap into all three subjective experiences defined by Heaphy & Dutton: mutuality (“… were you and the other(s) mutually responsive to one another’s needs?”), positive regard (“…did you experience a mutual sense of warmth and concern toward the other(s)?”), and vitality (“did you feel energized and
uplifted by the company of the other(s)?"). Given than HQCs do not currently have a validated measure and HQCs and positivity resonance overlap at the operationalization level, the positivity resonance scale that was validated in Major et al.’s (2018) DRM study was applied in this study.

**Measures**

**HQC**s. For each interaction, participants rated what proportion of time during that episode (from 0 to 100 percent) they experienced each of the seven items of the Major et al. (2018) Positive Resonance Scale. Responses were averaged for the episode-level HQC score and averaged across each person’s daily interactions for the person-level HQC score. Cronbach’s alpha at the person-level was 0.97.

**Respectful Engagement.** Respectful engagement was measured at T1 with Carmeli et al.’s (2015) 9-item measure of Respectful Engagement. The 5-point Likert scale asked participants to rate how organizational members at their company act from 1 (Not at all) to 5 (To a very large extent). Example items include “Organizational members here express appreciation and respect for each other’s contribution to the organization” and “Organization members here make requests, not demands from each other.” Cronbach’s alpha was 0.92.

**Trusting.** Trusting could be measured at the individual level, as an individual’s propensity to trust, or at the team level, as team trust. Both were tested. Individual trust was measured at T1 with Frazier et al.’s (2013) 4-item Propensity to Trust scale. The scale asked participants to rate the people on their team. The 5-point Likert scale ranged from 1 (Strongly Disagree) to 5 (Strongly Agree). Example items include “I usually trust people until they give me a reason not to trust them” and “Trusting another person is not difficult for me”. Cronbach’s alpha was 0.91. Additionally, team trust was measured at T1 with the 6-item Perceived Trustworthiness subscale for Team Trust from Costa and Anderson (2011). The scale asked
participants to rate the people on their team. The 7-point Likert scale was slightly modified; the initial version ranged from 1 (Completely Disagree) to 7 (Completely Agree) and was changed to 1 (Strongly disagree) to 7 (Strongly agree) for consistency. Example items include “In this team, people can rely on each other” and “There are some hidden agendas in this team” (reverse-coded). Cronbach’s alpha was 0.87.

**Task Enabling.** Task enabling was measured at T1 with the 3-item Task Assistance subscale of the Relationship Function Inventory from Clobert et al. (2016). The scale asks participants to rate how their coworkers help them with their work. The 5-pt Likert scale ranged from 1 (Strongly disagree) to 5 (Strongly agree). Example items include “My coworkers are always willing to give me a hand with my work” and “My coworkers answer questions I have about my job.” Cronbach’s alpha was 0.77.

**End-of-Day Engagement.** End-of-day engagement was measured at T2 was based on Sonnentag’s (2003) adapted version of Schaufeli et al.’s (2006) 9-item Utrecht Work Engagement Scale (UWES). Sonnentag (2003) used the UWES for her diary study to measure within-person fluctuations of work engagement, so she changed the items to refer to “today” (e.g., “Today, I was enthusiastic about my job”). Given that the DRM will ask about someone’s engagement from the previous day, all UWES items in this study were changed to “yesterday” (e.g., “Yesterday, I felt happy when I was working intensely”). Schaufeli et al.’s (2006) 7-pt scale was modified from measuring frequency (where 0 = Never and 6 = Always/Every Day) to a 7-point Likert scale ranging from 1 (Strongly disagree) to 7 (Strongly agree). Cronbach’s alpha was 0.93.

**End-of-Day Exhaustion.** Although burnout tends to be an enduring syndrome, there is evidence that exhaustion can fluctuate (e.g., Simbula, 2010). As such, end-of-day exhaustion was
based on Simbula’s (2010) adapted version of the Maslach Burnout Inventory (MBI). Simbula (2010) conducted a daily diary study, so instructions were based on “today” (e.g., “Today I felt emotionally drained by my work). Given that the DRM will ask about someone’s exhaustion from the previous day, all items in this study were changed to “yesterday” (e.g., “Yesterday, I felt burned out from my work”). One item was omitted (“Today, working all day was really a strain for me”). The Likert scale ranged from 1 (Strongly disagree) to 7 (Strongly agree). Cronbach’s alpha was 0.94.

The DRM. Complete DRM instructions and questions are included in the appendix. The instructions and protocol were based on the Instruction Documentation from Kahneman et al. (2004), as well as the appendix from Major et al.’s (2018) positivity resonance DRM studies. Participants were asked to list which work colleagues, patients, vendors, or clients they interacted with yesterday while working for their primary job. Influenced by Major et al.’s (2018) study, interactions are defined as “any encounter (including by videoconference, phone, etc.) of a few minutes or longer with another person(s) in which the participants attended to one another and adjusted their behavior in response to one another.” Next, participants were asked to select the day of the week that yesterday was, as well as how many hours they worked for their primary job on that day.

From there, the reconstruction portion of the DRM began. Participants could add up to 30 interactions from the previous day, ideally in chronological order. For each interaction, they were asked to include the name of the interaction, any notes to help them remember details about the interaction, what time of day their interaction started, and how many minutes it lasted. After listing all their interactions, participants were then asked additional details about each individual interaction.
Media naturalness. For each interaction, participants were asked several questions to describe the type of interaction that took place and who else was involved, which helped describe how natural the interaction was: more natural interactions are face-to-face, whereas less natural interactions include audio interactions where individuals can’t see one another. Participants were asked “During this interaction, how did you correspond?” They selected from a range of options, including in-person and face-to-face, video conference (such as Zoom, Teams, Google Meet) with their video turned ON, or audio (such as a video conference with the video turned off, a phone call, or a voice note). Additionally, I asked questions to gauge how many other people were part of the interaction and which types of people they interacted with (and they could check all that apply from the following list: direct manager/supervisor, work colleague/coworker, direct report or subordinate, executive/higher-level manager, new client, customer, vendor, or patient, existing client, customer, vendor, or patient, or other).

Control Variables. Control variables included general burnout, extraversion, and gender, which were measured during T1.

General burnout was measured with the 16-item Oldenburg Burnout Inventory (OLBI; Demerouti et al., 2008). I separated out the timing of the OLBI measure (taken during T1) from the end-of-day engagement and end-of-day exhaustion measures (taken during T2) similar to Oerlemans & Bakker’s (2014) DRM study to separate out the similar measures and minimize biased responses. The 4-pt Likert scale ranged from 1 (Strongly disagree) to 4 (Strongly agree). For models including end-of-day work engagement and exhaustion, the subdimensions of the OLBI were used (disengagement and exhaustion, respectively). Example items include “There are days when I feel tired before I arrive at work” (reverse-coded) and “I feel more and
more engaged in my work”. Cronbach’s alpha was 0.90 for the full scale, 0.86 for the disengagement subdimension, and 0.82 for the exhaustion subdimension.

Extraversion was measured with a 9-item New Social Interaction subscale of Extraversion from Lucas et al. (2000). The items were changed from second person (“you”, “yourself”) to first-person (“I”, “myself”). The 5-point Likert scale ranged from 1 (Strongly disagree) to 5 (Strongly agree). Example items include “You always prefer being with others to spending time alone” and “Sometimes you need to be alone to collect your thoughts” (reverse-coded). Cronbach’s alpha was 0.84.

Data Analysis

The present study used hierarchical regression analyses, multilevel modeling, and moderations to test the proposed hypotheses. Analyses were conducted using R statistical package (Macintosh Version 1.1.463; R Core Team, 2021). The jmv and psych packages were used to clean the data and analyze the hierarchical regressions, and nlme and lme4 packages were used for the multilevel data.

To prepare the data, the datasets from both timepoints (T1 and T2) were combined by the participants’ Prolific ID. The Qualtrics surveys were set up to recode reverse-coded items, so composite scores were created to average the main constructs, as well as the sub-dimensions of constructs when necessary (i.e., general burnout/work engagement and day-level work engagement). The HQC scores were averaged for each interaction, and then across interactions for the between-subject HQC scores.

The data cleaning process ensured missing data, univariate outliers, and multivariate outliers were removed, and linearity, normality, homoscedasticity, and multicollinearity were not violated. Variables were centered around the grand mean for hierarchical regression analyses to
test hypotheses 1 through 5 with control variables. For the last set of hypotheses, focused on within-subject variations, the data was transformed from wide to long format and the nmle package was used to assess the media naturalness moderation analyses.

**Study 1 Results**

There were initially 272 participants. No participants failed attention checks, but 2 participants had missing data and were removed. Normality was within range, with skew and kurtosis less extreme than ±3.00 and ±10.00, respectively. Upon checking for univariate outliers 3 standard deviations from the mean, 8 participants were removed using listwise deletion. This brought down the subject pool down to 263 participants. Cook’s test identified and removed 16 multivariate outliers, bringing the final subject pool down to 247 participants. Scatterplots were run and inspected, and the residuals across each variable appeared to be relatively stable and normally distributed. A Breusch Pagan test confirmed that homoscedasticity was not violated, $\chi^2(1) = 1.62, \ p = .203$. Although task enabling, extraversion, end-of-day engagement and end-of-day exhaustion VIF scores were under 2.5, OLBI was 3.34, trust was 2.75, and respectful engagement was 2.61. This indicates a potential risk for multicollinearity for those variables.

Descriptive statistics can be found in Table 1, and the correlation table can be found in Table 2. Correlations indicated that the three HQC antecedents related to teams (i.e., respectful engagement, team trust, and task enabling) were all moderately to strongly correlated with one another (.57 - .73), with respectful engagement and trusting having the strongest correlation. Propensity to trust, although still correlated with the other antecedents, had a weaker correlation. End-of-day engagement and end-of-day exhaustion were each more strongly correlated with general burnout (.68 and -.66) than with one another (-.57), indicating that although there is some
overlap, the day-level measurements are not exact opposites of one another and there is some variability between general burnout compared to day-level measurements of engagement and exhaustion.

Table 1

Descriptive Statistics for Between-Subject Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>Skew</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respect</td>
<td>3.70</td>
<td>.68</td>
<td>1.89</td>
<td>5.00</td>
<td>-.05</td>
<td>-.27</td>
</tr>
<tr>
<td>Team Trust</td>
<td>5.23</td>
<td>.97</td>
<td>2.17</td>
<td>7.00</td>
<td>-.60</td>
<td>.47</td>
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<tr>
<td>Proprtrust</td>
<td>3.43</td>
<td>.93</td>
<td>1.00</td>
<td>5.00</td>
<td>-.59</td>
<td>-.10</td>
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<tr>
<td>Task</td>
<td>3.91</td>
<td>.68</td>
<td>2.00</td>
<td>5.00</td>
<td>-.50</td>
<td>-.00</td>
</tr>
<tr>
<td>Engage</td>
<td>4.47</td>
<td>1.29</td>
<td>1.00</td>
<td>7.00</td>
<td>-.34</td>
<td>-.44</td>
</tr>
<tr>
<td>Exhaust</td>
<td>3.77</td>
<td>1.79</td>
<td>1.00</td>
<td>7.00</td>
<td>.11</td>
<td>-1.26</td>
</tr>
<tr>
<td>HQC Total</td>
<td>64.27</td>
<td>23.38</td>
<td>8.57</td>
<td>100.00</td>
<td>-.62</td>
<td>-.32</td>
</tr>
<tr>
<td>Burnout</td>
<td>2.32</td>
<td>.50</td>
<td>1.00</td>
<td>3.38</td>
<td>-.13</td>
<td>-.44</td>
</tr>
<tr>
<td>BO-Exhaust</td>
<td>2.30</td>
<td>.50</td>
<td>1.00</td>
<td>3.38</td>
<td>-.22</td>
<td>-.28</td>
</tr>
<tr>
<td>BO-Disengage</td>
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<td>.58</td>
<td>1.00</td>
<td>3.75</td>
<td>-.05</td>
<td>-.45</td>
</tr>
<tr>
<td>Extraversion</td>
<td>2.34</td>
<td>.68</td>
<td>1.00</td>
<td>4.00</td>
<td>.27</td>
<td>-.42</td>
</tr>
<tr>
<td>Gender</td>
<td>.40</td>
<td>.49</td>
<td>0.00</td>
<td>1.00</td>
<td>.41</td>
<td>-1.85</td>
</tr>
</tbody>
</table>

Note. N = 247. Respect = respectful engagement; Trust = team trust; Proprtrust = propensity to trust; Task = task enabling; Engage = end-of-day engagement, Exhaust = end-of-day exhaustion, HQC = average of all HQC interaction ratings; Burnout = general burnout (not end-of-day), BO – Exhaust = exhaustion dimension of general burnout; BO-Disengage = disengagement dimension of general burnout; Gender man = 0, woman, non-binary, or prefer not to say = 1
### Table 2

**Correlation Matrix for Between-Subject Measures**

<table>
<thead>
<tr>
<th>Measures</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Respect</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Team Trust</td>
<td>.73***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Proptrust</td>
<td>.24***</td>
<td>.28***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Task</td>
<td>.57***</td>
<td>.63***</td>
<td>.25***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Engage</td>
<td>.44***</td>
<td>.32***</td>
<td>.12</td>
<td>.32***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Exhaust</td>
<td>-.43***</td>
<td>-.38***</td>
<td>-.08</td>
<td>-.30***</td>
<td>-.57***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. HQC Total</td>
<td>.38***</td>
<td>.37***</td>
<td>.16*</td>
<td>.32***</td>
<td>.40***</td>
<td>-.32***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Burnout</td>
<td>-.64***</td>
<td>-.59***</td>
<td>-.22***</td>
<td>-.45***</td>
<td>-.66***</td>
<td>.68***</td>
<td>-.39***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. BO Exhaustion</td>
<td>-.56***</td>
<td>-.56***</td>
<td>-.23***</td>
<td>-.39***</td>
<td>-.53***</td>
<td>.67***</td>
<td>-.32***</td>
<td>.91***</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. BO Disengage</td>
<td>-.61***</td>
<td>-.53***</td>
<td>-.18***</td>
<td>-.44***</td>
<td>-.68***</td>
<td>.59***</td>
<td>-.39***</td>
<td>.93***</td>
<td>.70***</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>11. Extraversion</td>
<td>.22***</td>
<td>.11</td>
<td>.06</td>
<td>.06</td>
<td>.32***</td>
<td>-.17**</td>
<td>.06</td>
<td>-.33***</td>
<td>-.27***</td>
<td>-.34***</td>
<td>-</td>
</tr>
<tr>
<td>12. Gender</td>
<td>-.14*</td>
<td>-.22***</td>
<td>-.07</td>
<td>-.06</td>
<td>-.10</td>
<td>-.11</td>
<td>-.11</td>
<td>.18*</td>
<td>.25***</td>
<td>.09</td>
<td>-.14*</td>
</tr>
</tbody>
</table>

*Note. N = 247. Respect = respectful engagement; Trust = team trust; Proptrust = propensity to trust; Task = task enabling; Engage = end-of-day engagement; Exhaust = end-of-day exhaustion; HQC Total= average of all HQC interaction ratings; Burnout = general burnout (not end-of-day); BO Exhaustion = exhaustion dimension of general burnout; BO Disengage = disengagement dimension of general burnout; Gender man = 0, woman, non-binary, or prefer not to say = 1

* *p < .05, **p < .01, ***p < .001.*
Given the higher VIF scores for trust and respectful engagement, as well as some higher correlations among some of the tested antecedents of HQCs, I ran CFAs to establish discriminant validity of the four antecedent variables: respectful engagement, trust, propensity to trust, and task enabling (see Table 3). Comparing the hypothesized four-factor model to the one-factor model, the chi-square for alternative models were significantly different from the four-factor model. Additionally, the other fit statistics were best for the four-factor model. Thus, respectful engagement, trust, propensity to trust, and task enabling were treated as four distinct variables in the analyses.

Table 3

<table>
<thead>
<tr>
<th>Model</th>
<th>(\chi^2)</th>
<th>df</th>
<th>(\Delta\chi^2)</th>
<th>CFI</th>
<th>RMSEA</th>
<th>SRMR</th>
<th>AIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-factor</td>
<td>1324.48</td>
<td>209</td>
<td>395.82</td>
<td>.68</td>
<td>.13</td>
<td>.12</td>
<td>11901.28</td>
</tr>
<tr>
<td>Four-factor</td>
<td>437.86</td>
<td>203</td>
<td></td>
<td>.94</td>
<td>.06</td>
<td>.05</td>
<td>12775.90</td>
</tr>
</tbody>
</table>

Note. All chi-square values are significant at \(p < .001\). The four-factor model includes respectful engagement, trust, propensity to trust, and task enabling. The one-factor model constrains the four variables to the same latent variable. CFI = comparative fit index; RMSEA = root-mean square error of approximation; SRMR = standardized root mean square residual; AIC = Akaike information criterion.

Hypothesis Testing for Research Question 1: How do HQCs impact burnout and work engagement?

**H1: HQCs predicting work engagement.** For the initial set of hypotheses, I ran regression models using centered predictor variables at the person level (Level 2).

To test Hypothesis 1, whether person-level HQC scores are positively related to work engagement, I started by running the null model with the control variables (i.e., burnout disengagement, extraversion, gender) to determine whether they predicted end-of-day work
engagement, $F(3, 243) = 73.68, p < .001, R^2 = .48$. Burnout disengagement and extraversion were significant predictors in the model, but gender was not. The null model accounted for 48% of the variance of end-of-day engagement. When HQC was added into the model, the model again predicted end-of-day work engagement, $F(4,242) = 60.22, p < .001, R^2 = .50$. Burnout disengagement and extraversion were still significant predictors in the model, but HQC was a significant predictor as well ($\beta = .16, p = .001$). A model comparison demonstrated that the model with HQC explained significantly more variance on end-of-day engagement, $F(1,242) = 10.86, p = .001, \Delta R^2 = .02$. This suggests that HQCs accounted for 2% of the variance in end-of-day engagement above the control measures (see Table 4 for full results). Therefore, Hypothesis 1 was supported.

### Table 4

*Regression Model Results with End-of-Day Engagement as the Outcome Variable*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$SE$</th>
<th>$\beta$</th>
<th>95% CI for $\beta$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LL</td>
<td>UL</td>
<td></td>
</tr>
<tr>
<td><strong>Model 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>3.87</td>
<td>.08</td>
<td>.08***</td>
<td>-.74 - .55</td>
<td>.48</td>
<td></td>
</tr>
<tr>
<td>BO Disengage</td>
<td>2.30</td>
<td>.11</td>
<td>.11***</td>
<td>-.46 - -.25</td>
<td>.48</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.01</td>
<td>.09</td>
<td>.10*</td>
<td>.007 - .20</td>
<td>.48</td>
<td></td>
</tr>
<tr>
<td>Gender a</td>
<td>-.10</td>
<td>.11</td>
<td>.04</td>
<td>-.13 - .05</td>
<td>.48</td>
<td></td>
</tr>
<tr>
<td><strong>Model 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.50</td>
<td>.02**</td>
</tr>
<tr>
<td>Intercept</td>
<td>4.50</td>
<td>.07</td>
<td>.07***</td>
<td>-.46 - -.27</td>
<td>.50</td>
<td>.02**</td>
</tr>
<tr>
<td>BO Disengage</td>
<td>-1.29</td>
<td>.12</td>
<td>.12***</td>
<td>-.57 - -.47</td>
<td>.50</td>
<td>.02**</td>
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<tr>
<td>Extraversion</td>
<td>.22</td>
<td>.09</td>
<td>.12*</td>
<td>.02 - .21</td>
<td>.50</td>
<td>.02**</td>
</tr>
<tr>
<td>Gender a</td>
<td>-.07</td>
<td>.11</td>
<td>.03</td>
<td>-.12 - .06</td>
<td>.50</td>
<td>.02**</td>
</tr>
<tr>
<td>HQC Total</td>
<td>.009</td>
<td>.003</td>
<td>.16**</td>
<td>.07 - .26</td>
<td>.50</td>
<td>.02**</td>
</tr>
</tbody>
</table>

*Note.* $N = 247$. CI = confidence interval; LL = lower limit; UL = upper limit; BO Disengage = disengagement dimension of general burnout; HQC Total = average of all HQC interaction ratings at the person-level (Level 2)

$a$ Man = 0, woman, non-binary, or prefer not to say = 1
*p < .05, **p < .01, ***p < .001.

**Exploratory Analysis for End-of-Day Engagement.** To further assess the relationship between HQCs and end-of-day engagement, exploratory moderation analyses were conducted. First, I assessed whether the total number of interactions moderated the relationship between HQCs and end-of-day engagement. Participants reported engaging in up to 15 interactions during their prior day. As demonstrated by the results in Table 5, the number of interactions did not appear to moderate the relationship.

**Table 5**

| Exploratory Moderation Model with End-of-Day Engagement as the Outcome Variable |
|---------------------------------|-----------------|-----------|----------|-----------------|-----------------|----------|----------|
| Variable                        | B               | SE        | β        | 95% CI for β   | R²              | ΔR²     |
|                                 | B               | SE        | β        | LL              | UL              |         |         |
| Model 3                         |                 |           |          |                 |                 |         |         |
| Intercept                       | 4.23            | .15       | .16      | -.23            | -.33            | .10     | .10     |
| BO Disengage                    | -1.27           | .12       | -.57     | -.67            | -.46            | .01     | .01     |
| Extraversion                    | .22             | .09       | .12      | .02             | .21             | .06     | .06     |
| Gender a                        | -.04            | .12       | -.02     | -.11            | .07             | .01     | .01     |
| HQC Total                       | .01             | .002      | .16      | .06             | .26             | .01     | .01     |
| Num Interactions                | .06             | .03       | .09      | .004            | .18             |         |         |
| Model 4                         |                 |           |          |                 |                 | .51     | .001    |
| Intercept                       | 4.24            | .15       | .16      | -.23            | -.33            |         |         |
| BO Disengage                    | -1.28           | .12       | -.57     | -.68            | -.47            |         |         |
| Extraversion                    | .23             | .09       | .12      | .02             | .22             |         |         |
| Gender a                        | -.04            | .12       | -.02     | -.11            | .07             |         |         |
| HQC Total                       | .01             | .005      | -.23     | .04             | .41             |         |         |
| Num Interactions                | .05             | .03       | .09      | -.001           | .18             |         |         |
| HQC*Interactions                | -9e-4           | .001      | -.08     | -.26            | .10             |         |         |

**Note.** N = 247. CI = confidence interval; LL = lower limit; UL = upper limit; BO Disengage = disengagement dimension of general burnout; HQC Total = average of all HQC interaction ratings at the person-level (Level 2); Num Interactions = number of daily interactions; HQC*Interactions = interaction of HQC and number of interactions. Confidence intervals instead of p-values are reported because these analyses are exploratory.

a Man = 0, woman, non-binary, or prefer not to say = 1
Additionally, I tested whether the total length of time that participants spent in their daily interactions moderated the relationship between HQCs and end-of-day engagement (Model 4). For each interaction, participants shared the total length of time (in minutes) in which they were interacting. The total number of minutes spent interacting for the day was then used for the moderation. As demonstrated by the results in Table 6, the length of time did not appear to moderate the relationship.

Table 6

*Exploratory Moderation Model with End-of-Day Engagement as the Outcome Variable*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE</th>
<th>$\beta$</th>
<th>95% CI for $\beta$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
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</thead>
<tbody>
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<td></td>
<td>LL</td>
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<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>.44</td>
<td>.10</td>
<td></td>
<td>.50</td>
<td>.50</td>
<td>.001 $^b$</td>
</tr>
<tr>
<td>BO Disengage</td>
<td>.12</td>
<td>4e-4</td>
<td>-.03</td>
<td>-.06</td>
<td>.04</td>
<td>.06</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.18</td>
<td>4e-4</td>
<td>.04</td>
<td>.07</td>
<td>.13</td>
<td></td>
</tr>
<tr>
<td>Gender $^a$</td>
<td>-.06</td>
<td>.12</td>
<td>.02</td>
<td>.01</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>HQC Total</td>
<td>.01</td>
<td>.003</td>
<td>.16</td>
<td>.07</td>
<td>.26</td>
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</tr>
<tr>
<td>Total Length</td>
<td>3e-4</td>
<td>4e-4</td>
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<td>.05</td>
<td>.32</td>
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</tr>
<tr>
<td>Model 6</td>
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<td>LL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>.44</td>
<td>.10</td>
<td></td>
<td>.50</td>
<td>.50</td>
<td>4e-4</td>
</tr>
<tr>
<td>BO Disengage</td>
<td>.12</td>
<td>4e-4</td>
<td>-.03</td>
<td>-.06</td>
<td>.04</td>
<td>.06</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.18</td>
<td>4e-4</td>
<td>.04</td>
<td>.07</td>
<td>.13</td>
<td></td>
</tr>
<tr>
<td>Gender $^a$</td>
<td>-.06</td>
<td>.12</td>
<td>.02</td>
<td>.01</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>HQC Total</td>
<td>.01</td>
<td>.003</td>
<td>.16</td>
<td>.07</td>
<td>.26</td>
<td></td>
</tr>
<tr>
<td>Total Length</td>
<td>3e-4</td>
<td>4e-4</td>
<td>.04</td>
<td>.05</td>
<td>.32</td>
<td></td>
</tr>
<tr>
<td>HQC*Length</td>
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<td>2e-5</td>
<td>-.03</td>
<td>-.16</td>
<td>.10</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* $N = 247$. CI = confidence interval; LL = lower limit; UL = upper limit; BO Disengage = disengagement dimension of general burnout; HQC Total = average of all HQC interaction ratings at the person-level (Level 2); Total Length = length of time engaged in interactions throughout the day; HQC*Length = interaction of HQC and total length of interactions.

$^a$ Man = 0, woman, non-binary, or prefer not to say = 1
Finally, I looked at the individual subdimensions of work engagement – vigor, dedication, and absorption – as independent outcome variables for HQCs. HQCs predicted all three subdimensions, and dedication had the highest beta weight (.17, compared to .14 for vigor and absorption). See Tables 7-9.

Table 7

*Exploratory Regression Model Results with Vigor as the Outcome Variable*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>95% CI for β</th>
<th>R²</th>
<th>Δ R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>4.29</td>
<td>.09</td>
<td></td>
<td></td>
<td>.46</td>
<td></td>
</tr>
<tr>
<td>BO Disengage</td>
<td>-1.58</td>
<td>.13</td>
<td>-.59</td>
<td>-.69 to -.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.36</td>
<td>.11</td>
<td>.16</td>
<td>.06 to .26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.29</td>
<td>.15</td>
<td>-.09</td>
<td>-.19 to .002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.47</td>
<td>.02</td>
</tr>
<tr>
<td>Intercept</td>
<td>4.27</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BO Disengage</td>
<td>-1.42</td>
<td>.14</td>
<td>-.53</td>
<td>-.64 to -.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.39</td>
<td>.11</td>
<td>.17</td>
<td>.07 to .27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.25</td>
<td>.15</td>
<td>-.08</td>
<td>-.17 to .01</td>
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<td></td>
</tr>
<tr>
<td>HQC Total</td>
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<td>.003</td>
<td>.14</td>
<td>.04 to .24</td>
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<td></td>
</tr>
</tbody>
</table>

Note. N = 247. CI = confidence interval; LL = lower limit; UL = upper limit; BO Disengage = disengagement dimension of general burnout; HQC Total = average of all HQC interaction ratings at the person-level (Level 2).

a Man = 0, woman, non-binary, or prefer not to say = 1

Table 8

*Exploratory Regression Model Results with Dedication as the Outcome Variable*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>95% CI for β</th>
<th>R²</th>
<th>Δ R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
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<td></td>
<td>.49</td>
<td></td>
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<td>Intercept</td>
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<td>.08</td>
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<tr>
<td>Variable</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>4.54</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BO Disengage</td>
<td>-1.09</td>
<td>.13</td>
<td>-.50</td>
<td>-.61</td>
<td>-.38</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.14</td>
<td>.11</td>
<td>.07</td>
<td>-.04</td>
<td>.19</td>
<td></td>
</tr>
<tr>
<td>Gender a</td>
<td>.04</td>
<td>.14</td>
<td>-.02</td>
<td>-.09</td>
<td>.12</td>
<td></td>
</tr>
<tr>
<td>HQC Total</td>
<td>.01</td>
<td>.002</td>
<td>.17</td>
<td>.07</td>
<td>.27</td>
<td></td>
</tr>
</tbody>
</table>

Model 2
| Intercept     | 4.67    | .08   |       |       |       |       |       |       |       |
| BO Disengage  | -1.48   | .12   | -.61  | -.72  | -.51  |       |       |       |       |
| Extraversion  | .12     | .10   | .06   | -.03  | .16   |       |       |       |       |
| Gender a      | .009    | .13   | .003  | -.09  | .09   |       |       |       |       |
| HQC Total     | .01     | .002  | .17   | .07   | .27   |       |       |       |       |

Note. $N = 247$. CI = confidence interval; LL = lower limit; UL = upper limit; BO Disengage = disengagement dimension of general burnout; HQC Total = average of all HQC interaction ratings at the person-level (Level 2).

a Man = 0, woman, non-binary, or prefer not to say = 1

Table 9

Exploratory Regression Model Results with Absorption as the Outcome Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$SE$</th>
<th>$\beta$</th>
<th>95% CI for $\beta$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
<td></td>
<td>UL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>4.54</td>
<td>.09</td>
<td></td>
<td></td>
<td>.27</td>
<td></td>
</tr>
<tr>
<td>BO Disengage</td>
<td>-1.09</td>
<td>.13</td>
<td>-.50</td>
<td>-.61</td>
<td>-.38</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.14</td>
<td>.11</td>
<td>.07</td>
<td>-.04</td>
<td>.19</td>
<td></td>
</tr>
<tr>
<td>Gender a</td>
<td>.04</td>
<td>.14</td>
<td>-.02</td>
<td>-.09</td>
<td>.12</td>
<td></td>
</tr>
<tr>
<td>HQC Total</td>
<td>.01</td>
<td>.002</td>
<td>.17</td>
<td>.07</td>
<td>.27</td>
<td></td>
</tr>
</tbody>
</table>

Model 2
| Intercept     | 4.53    | .09   |       |       |       |       |       |       |       |
| BO Disengage  | -0.96   | .14   | -.44  | -.56  | -.32  |       |       |       |       |
| Extraversion  | .16     | .11   | .09   | .03   | .20   |       |       |       |       |
| Gender a      | .07     | .14   | .03   | -.08  | .14   |       |       |       |       |
| HQC Total     | .008    | .003  | .14   | .03   | .26   |       |       |       |       |

Note. $N = 247$. CI = confidence interval; LL = lower limit; UL = upper limit; BO Disengage = disengagement dimension of general burnout; HQC Total = average of all HQC interaction ratings at the person-level (Level 2).

a Man = 0, woman, non-binary, or prefer not to say = 1
**H2: HQCs predicting burnout.** Next, to test Hypothesis 2, whether HQCs are positively related to burnout, I first ran the null model with the control variables (i.e., burnout exhaustion, extraversion, gender) to determine whether they predicted end-of-day exhaustion, $F(3, 243) = 68.11, p < .001, R^2 = .46$. Burnout exhaustion was a significant predictor in the model, but neither gender nor extraversion played a role. The null model accounted for 46% of the variance of end-of-day exhaustion. When HQC was added into the model, the model again predicted end-of-day exhaustion, $F(4, 242) = 53.27, p < .001, R^2 = .47$. Burnout exhaustion was still the only significant control predictor in the model, but HQC was a significant predictor as well ($\beta = -.11, p = .023$).

A model comparison demonstrated that the model with HQC explained an additional 1% of the variance in end-of-day exhaustion above the control measures, $F(1, 242) = 5.20, p = .023, \Delta R^2 = .01$ (see Table 10 for full results). Hypothesis 2 was supported.

**Table 10**

*Regression Model Results with End-of-Day Exhaustion as the Outcome Variable*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$SE$</th>
<th>$\beta$</th>
<th>95% CI for $\beta$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model 1</strong></td>
<td></td>
<td></td>
<td></td>
<td>LL</td>
<td>UL</td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>3.87***</td>
<td>.11</td>
<td></td>
<td></td>
<td>.46</td>
<td></td>
</tr>
<tr>
<td>BO Exhaustion</td>
<td>2.43***</td>
<td>.18</td>
<td>.69***</td>
<td>.59</td>
<td>-.79</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.02</td>
<td>.13</td>
<td>.009</td>
<td>-.09</td>
<td>.11</td>
<td></td>
</tr>
<tr>
<td>Gender a</td>
<td>-.22</td>
<td>.16</td>
<td>-.07</td>
<td>-.17</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td><strong>Model 2</strong></td>
<td></td>
<td></td>
<td></td>
<td>LL</td>
<td>UL</td>
<td>.01**</td>
</tr>
<tr>
<td>Intercept</td>
<td>3.87***</td>
<td>.11</td>
<td></td>
<td></td>
<td>.47</td>
<td>.01**</td>
</tr>
<tr>
<td>BO Exhaustion</td>
<td>2.30***</td>
<td>.18</td>
<td>.65***</td>
<td>.55</td>
<td>.75</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.01</td>
<td>.13</td>
<td>.005</td>
<td>-.09</td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td>Gender a</td>
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<td>.15</td>
<td>-.07</td>
<td>-1.7</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>HQC Total</td>
<td>-.009*</td>
<td>.004</td>
<td>-.11*</td>
<td>-.21</td>
<td>-.02</td>
<td></td>
</tr>
</tbody>
</table>

*Note. N = 247. CI = confidence interval; LL = lower limit; UL = upper limit; BO Exhaustion = general burnout exhaustion score of general burnout; HQC Total = average of all HQC interaction ratings at the person-level (Level 2).*
*p < .05, **p < .01, ***p < .001.

**Exploratory Analysis for End-of-Day Exhaustion.** Exploratory moderation analyses were conducted, similar to HQCs and end-of-day engagement, to assess whether total number of interactions moderated the relationship. As demonstrated by the results in Table 11, the number of interactions throughout the day did not appear to moderate the relationship.

**Table 11**

*Exploratory Regression Model Results with End-of-Day Exhaustion as the Outcome Variable*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>95% CI for β</th>
<th>R²</th>
<th>Δ R²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Model 3</td>
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<td></td>
<td></td>
<td></td>
<td>.47</td>
<td>.002</td>
</tr>
<tr>
<td>Intercept</td>
<td>4.06</td>
<td>.21</td>
<td>.65</td>
<td>.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BO Exhaustion</td>
<td>2.28</td>
<td>.19</td>
<td>.65</td>
<td>.54</td>
<td>.75</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.01</td>
<td>.13</td>
<td>.004</td>
<td>-.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender a</td>
<td>-.25</td>
<td>.18</td>
<td>-.07</td>
<td>-.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HQC Total</td>
<td>-.01</td>
<td>.004</td>
<td>-.11</td>
<td>-.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Num Interactions</td>
<td>-.04</td>
<td>.04</td>
<td>-.05</td>
<td>-.14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Model 4         |     |     |     |              | .47 | 6e-7 |
| Intercept       | 4.05| .21 | .65 | .54          |     |      |
| BO Exhaustion   | 2.28| .19 | .65 | .54          | .75 |      |
| Extraversion    | .01 | .13 | .004| -.09         |     |      |
| Gender a        | -.25| .18 | -.07| -.17         |     |      |
| HQC Total       | -.01| .007| -.11| -.30         | .08 |      |
| Num Interactions| -.04| .04 | -.05| -.14         | .05 |      |
| HQC*Interactions| 3e-5| .001| .002| -.19         | .19 |      |

Note. N = 247. CI = confidence interval; LL = lower limit; UL = upper limit; BO Exhaustion = general exhaustion score of general burnout; HQC Total = average of all HQC interaction ratings at the person-level (Level 2); Num Interactions = number of daily interactions; HQC*Interactions = interaction of HQC and number of interactions; Total Length = length of time engaged in interactions throughout the day; HQC*Length = interaction of HQC and total length of interactions.

a Man = 0, woman, non-binary, or prefer not to say = 1
Length of interactions was also assessed as a moderator for the relationship between HQCs and end-of-day exhaustion. As demonstrated by the results in Table 12, the total length of interactions throughout the day did not appear to moderate the relationship.

Table 12

*Exploratory Regression Model Results with End-of-Day Exhaustion as the Outcome Variable*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>95% CI for β</th>
<th>( R^2 )</th>
<th>( \Delta R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model 5</strong></td>
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<td></td>
<td></td>
<td></td>
<td>.47</td>
<td>.003 b</td>
</tr>
<tr>
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<td>3.77</td>
<td>.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BO Exhaustion</td>
<td>2.28</td>
<td>.19</td>
<td>.65</td>
<td>.54</td>
<td>.75</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>-.02</td>
<td>.13</td>
<td>.01</td>
<td>-.11</td>
<td>.09</td>
<td></td>
</tr>
<tr>
<td>Gender a</td>
<td>-.24</td>
<td>.18</td>
<td>-.07</td>
<td>-.16</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>HQC Total</td>
<td>-.01</td>
<td>.003</td>
<td>-.12</td>
<td>-.21</td>
<td>-.02</td>
<td></td>
</tr>
<tr>
<td>Total Length</td>
<td>7e-4</td>
<td>6e-4</td>
<td>-.05</td>
<td>-.04</td>
<td>.15</td>
<td></td>
</tr>
<tr>
<td><strong>Model 6</strong></td>
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<td></td>
<td></td>
<td>.47</td>
<td>5e-4</td>
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<td>.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BO Exhaustion</td>
<td>2.27</td>
<td>.19</td>
<td>.65</td>
<td>.55</td>
<td>.75</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>-.02</td>
<td>.13</td>
<td>-.009</td>
<td>-.11</td>
<td>.09</td>
<td></td>
</tr>
<tr>
<td>Gender a</td>
<td>-.25</td>
<td>.18</td>
<td>-.07</td>
<td>-.17</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>HQC Total</td>
<td>-.01</td>
<td>.01</td>
<td>-.14</td>
<td>-.28</td>
<td>-6e-4</td>
<td></td>
</tr>
<tr>
<td>Total Length</td>
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<td>6e-4</td>
<td>.06</td>
<td>-.04</td>
<td>.15</td>
<td></td>
</tr>
<tr>
<td>HQC*Length</td>
<td>1e-5</td>
<td>3e-5</td>
<td>.03</td>
<td>-.10</td>
<td>.16</td>
<td></td>
</tr>
</tbody>
</table>

*Note. N = 247. CI = confidence interval; LL = lower limit; UL = upper limit; BO Exhaustion = general exhaustion score of general burnout; HQC Total = average of all HQC interaction ratings at the person-level (Level 2); Num Interactions = number of daily interactions; HQC*Interactions = interaction of HQC and number of interactions; Total Length = length of time engaged in interactions throughout the day; HQC*Length = interaction of HQC and total length of interactions.*

\(^a\) Man = 0, woman, non-binary, or prefer not to say = 1

\(^b\) \( \Delta R^2 \) compared to Model 2 in Table 10
Hypothesis Testing for Research Question 2: What antecedents of HQCs are relevant?

To test the antecedents of HQCs at the person level, I ran regressions and hierarchical multiple regression. I first tested the null model, tested the variance of intercepts by participant, then ran each proposed antecedent (respectful engagement, team trust, propensity to trust, and task enabling) individually. To determine whether the antecedents offered incremental value in combination with one another, I also ran models with multiple predictors. The null model (Model 1) tested the control variables (general burnout, extraversion, and gender) to determine their effect on episode level HQCs, $F(3, 243) = 15.36, p < .001, R^2 = .16$. General burnout was the only significant predictor in the model, and the model accounted for 16% of the variance in HQCs.

**H3: Respectful engagement predicting HQCs.** Hypothesis 3 was tested next to determine whether respectful engagement predicted HQCs (Model 2). The model predicted HQCs, $F(4, 242) = 13.92, p < .001, R^2 = .19$. Respectful engagement was a significant predictor in the model ($\beta = .22, p = .004$). A model comparison demonstrated that respectful engagement added incremental variance to the model, accounting for an extra 3% of the variance in HQCs, $F(1, 242) = 8.23, p = .004, \Delta R^2 = .03$.

**H4: Trusting predicting HQCs.** Next, Hypothesis 4 was tested to measure whether team trust (Model 3) and propensity to trust (Model 4) predicted HQCs. Team trust predicted HQCs, $F(4, 242) = 13.64, p < .001, R^2 = .18$. Team trust was a significant predictor in the model ($\beta = .20, p = .007$). A model comparison to the null model showed that team trust accounted for an extra 3% of the variance in HQCs, $F(1, 242) = 7.48, p = .007, \Delta R^2 = .03$. Propensity to trust, however, did not predict HQCs; a model with propensity to trust was significant ($F(4, 242) = 12.12, p < .001, R^2 = .17$), but propensity to trust was not a significant predictor in the model ($\beta = .09, p = \ldots$)
A model comparison to the null demonstrated that propensity to trust did not account for a significant proportion of the variance on HQCs, $F(1,242) = 2.17, p = .142, \Delta R^2 = .007$. Given that team trust was a significant predictor whereas propensity to trust was not, team trust was used in subsequent analyses.

**H5: Task enabling predicting HQCs.** The final antecedent was tested next for Hypothesis 5 to determine whether task enabling predicted HQCs (Model 5). The model predicted HQCs, $F(4,242) = 13.68, p < .001, R^2 = .18$. Task enabling was a significant predictor in the model ($\beta = .18, p = .007$). Compared to the null model, task enabling accounted for an extra 3% of the variance in HQCs, $F(1,242) = 7.43, p = .007, \Delta R^2 = .03$.

After testing the hypotheses individually, I checked whether the antecedents built upon one another and accounted for unique variance on HQCs (Model 6). The full model with respectful engagement, team trust, and task enabling predicted HQCs ($F(6,240) = 9.92, p < .001, R^2 = .20$) and it predicted more variance than the null model ($\Delta R^2 = .04$), but the antecedents were not significant predictors. Thus, although the antecedents each predicted HQCs individually, they did not predict HQCs in combination with one another. See Table 13 for results on the proposed antecedents of HQCs.

### Table 13

*Regression Model Results with HQCs Person-Level as the Outcome Variable*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$SE$</th>
<th>$\beta$</th>
<th>95% CI for $\beta$</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
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<td>-.53 - .28</td>
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*Note. N = 247. CI = confidence interval; LL = lower limit; UL = upper limit; Respect = respectful engagement; Proptrust = Propensity to trust; Task = task enabling; Burnout = general burnout (not end-of-day). All model comparisons (for Models 2-6) are compared to the null model (Model 1).  
*a Man = 0, woman, non-binary, or prefer not to say = 1  
*p < .05, **p < .01, ***p < .001.

**Exploratory Analysis Using Structural Equation Modeling.** Given that person-level HQCs was tested as an outcome for respectful engagement, trusting, and task enabling, and as an
antecedent for end-of-day engagement and exhaustion, I tested the full structural equation model that combined the data at the person-level. In addition to testing a full model with all three HQC antecedents, I assessed separate models where only one HQC antecedent was present at a time. Despite not having excellent model fit, both the full model ($\chi^2 = 3644.650$, $p = .000$, df = 1863, CFI = 0.844, TLI = 0.836, RMSEA = 0.060, SRMR = 0.066) and the individual antecedent models (respectful engagement: $\chi^2 = 2877.686$, $p = .000$, df = 1361, CFI = 0.845, TLI = 0.837, RMSEA = 0.065, SRMR = 0.067; trusting: $\chi^2 = 2682.027$, $p = .000$, df = 1208, CFI = 0.840, TLI = 0.832, RMSEA = 0.068, SRMR = 0.070; task enabling: $\chi^2 = 2452.516$, $p = .000$, df = 1064, CFI = 0.838, TLI = 0.828, RMSEA = 0.071, SRMR = 0.071) roughly reinforced the original findings from the hierarchical regressions: HQCs still continued to predict end-of-day engagement, and general burnout was always significant as a control variable. Respectful engagement, trusting, and task enabling were significant predictors only when they were represented individually in the models; in the full model, none of the antecedents predicted HQCs. The main difference in the results was related to end-of-day exhaustion; the path between HQCs and end-of-day exhaustion was not significant. The results are included in Table 14 below.

Table 14

*Standardized Path Coefficients with HQCs Person-Level in SEM Models*

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<tr>
<th>Model</th>
<th>Path</th>
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<th>$p$-value</th>
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<td>Gender$^a$ $\rightarrow$ HQC</td>
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<td>HQC $\rightarrow$ Engage</td>
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<td>0.004</td>
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</tr>
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<td>Burnout $\rightarrow$ Engage</td>
<td>-2.09***</td>
<td>0.23</td>
<td>-0.64***</td>
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<tr>
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<td>0.73***</td>
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<tr>
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**Respectful Engagement**

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<td>0.13*</td>
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**Trust**

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**Task Enabling**

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<td></td>
</tr>
</tbody>
</table>
Note. $N = 247$. Respect = respectful engagement; Trusting = Team Trust; Burnout = general burnout (not end-of-day); Engage = end-of-day engagement; Exhaust = end-of-day exhaustion; HQC = person-level high-quality connections. The Full Model includes respectful engagement, trusting, and task enabling leading to HQCs, and HQCs leading to end-of-day engagement and exhaustion. The Respectful Engagement model includes respectful engagement leading to HQCs, and HQCs leading to end-of-day engagement and exhaustion. The Trusting model includes trusting leading to HQCs, and HQCs leading to end-of-day engagement and exhaustion. The Task Enabling model includes task enabling leading to HQCs, and HQCs leading to end-of-day engagement and exhaustion.

$^a$ Man = 0, woman, non-binary, or prefer not to say = 1

*p < .05, **p < .01, ***p < .001.

Hypothesis Testing for Research Question 3: Does media naturalness impact HQCs?

H6-9: Media naturalness and HQCs. To test media naturalness and the moderation analyses, to determine whether the relationship between media naturalness – in-person interactions (‘in-person’), videoconference interactions with the camera on (‘video’), and audio interactions (‘audio’) – was moderated by the antecedents of HQCs (respectful engagement, trusting, and task enabling), multilevel modeling was employed to control for repeated measurements and variation in participants’ baseline scores. A random intercept factor of participant demonstrated better fit than a fixed intercept model that did not control for individual participant differences, $\Delta \chi^2(1) = 381.32, p < .001$. This suggests that participants’ baseline starting points varied. Next, the magnitude of individual differences was measured using an intraclass correlation coefficient (ICC). Individual differences accounted for 51% of the variance in HQCs (ICC = .51).
Between- and within-person variables (general burnout, gender, extraversion, video, audio, respectful engagement, team trust, and task enabling) were then included in the model to predict HQCs and test Hypothesis 6, whether media naturalness impacted HQCs. Within-person audio predicted HQCs ($b = -5.11, t_{[866]} = -2.24, p = .025$). Individuals who interacted via audio experienced lower HQCs compared to individuals who interacted in-person or via video. Otherwise, the only significant predictor of HQCs was general burnout ($b = -10.31, t_{[240]} = -2.79, p = .006$). Burnt out individuals were more likely to experience lower HQCs. Compared to the intercept-only model, media naturalness (video and audio) explained .2% of the within-person variance, and general burnout, gender, extraversion, respectful engagement, team trust, and task enabling explained 24% of the between-group variance. Thus, Hypothesis 6 was generally supported, since there was no difference between in-person and video interactions in producing HQCs, and only audio interactions led to lower quality connections. See Table 15 for between- and within-person variables in relation to HQCs without slope variation.

Table 15

**MLM Between- and Within- Person Variables Related to HQCs**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimates</th>
<th>SE</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Null Model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>64.54</td>
<td>1.46</td>
<td>868</td>
<td>.000</td>
</tr>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>55.85</td>
<td>19.29</td>
<td>866</td>
<td>.004</td>
</tr>
<tr>
<td>Burnout</td>
<td>-10.31</td>
<td>3.69</td>
<td>240</td>
<td>.006</td>
</tr>
<tr>
<td>Gender$^a$</td>
<td>-1.54</td>
<td>2.78</td>
<td>240</td>
<td>.581</td>
</tr>
<tr>
<td>Extraversion</td>
<td>-1.81</td>
<td>2.06</td>
<td>240</td>
<td>.381</td>
</tr>
<tr>
<td>Respect</td>
<td>5.12</td>
<td>3.13</td>
<td>240</td>
<td>.103</td>
</tr>
<tr>
<td>Trust</td>
<td>1.47</td>
<td>2.24</td>
<td>240</td>
<td>.514</td>
</tr>
<tr>
<td>Task</td>
<td>3.16</td>
<td>2.58</td>
<td>240</td>
<td>.221</td>
</tr>
<tr>
<td>Video$^b$</td>
<td>-3.32</td>
<td>2.34</td>
<td>866</td>
<td>.157</td>
</tr>
<tr>
<td>Audio$^c$</td>
<td>-5.11</td>
<td>2.28</td>
<td>866</td>
<td>.025</td>
</tr>
</tbody>
</table>
**Random Effects**

Null Model

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual $\sigma^2$ (SE)</td>
<td>406.21 (20.15)</td>
</tr>
<tr>
<td>Intercept $\tau_{00 \text{ID}}$ (SE)</td>
<td>420.97 (20.51)</td>
</tr>
</tbody>
</table>

Model 1

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual $\sigma^2$ (SE)</td>
<td>405.25 (20.13)</td>
</tr>
<tr>
<td>Intercept $\tau_{00 \text{ID}}$ (SE)</td>
<td>320.12 (17.89)</td>
</tr>
<tr>
<td>Variance Explained</td>
<td>Within Residual = .0024</td>
</tr>
<tr>
<td></td>
<td>Intercept = 0.24</td>
</tr>
</tbody>
</table>

**Note.** $N = 247$, Observations = 1,115. Respect = respectful engagement; Task = task enabling; Burnout = general burnout (not end-of-day); $\sigma^2$ = residual variance; $\tau_{00 \text{ID}}$ = intercept variance.

a Man = 0, woman, non-binary, or prefer not to say = 1

b Video = 1, in-person and audio= 0

c Audio = 1, in-person and video = 0

To test slope variation, I started by assessing whether there was significant variation in video interactions on HQCs. To determine whether the strength of the relationship differs across individuals, I estimated a model with a random slope for video and compared it to the previous model. Adding a random slope for video did not significantly improve the model (likelihood ratio of 3.27, $p = .195$). Given these results, I did not need to add in the interaction terms and compare the final models.

I then assessed whether there was a significant variation in audio interactions on HQCs by estimating a model with a random slope for audio and comparing it to the previous model. Adding a random slop for audio created only a very slight variation and did not significantly improve the model (likelihood ratio of 4.80, $p = .091$). Given these results, I did not need to add in the interaction terms and compare the final models. Hypotheses 7-9 were not supported.
**Study 1 Discussion**

The aim of Study 1 was to quantitatively assess whether HQCs were associated with end-of-day engagement and exhaustion, if the proposed antecedents of HQCs (respectful engagement, trusting, and task enabling) predicted HQCs, and whether media naturalness predicted HQCs and moderated the relationship between the proposed antecedents and HQCs.

The results demonstrated that higher levels of HQCs led to greater end-of-day engagement and lower end-of-day exhaustion, albeit by small amounts. Given that subdimensions of the burnout scale were used as control variables, these results suggest that HQCs predicted end-of-day engagement above and beyond general levels of disengagement, and HQCs predicted end-of-day exhaustion above and beyond general levels of exhaustion. When people experience higher quality connections with others, they are more energized and less exhausted at the end of the day, even when accounting for their general burnout.

These end-of-day effects are likely due to the resources gained through positive, interpersonal connections, as rooted in COR theory (Hobfoll, 1989). These resources not only fuel engagement but may also buffer exhaustion. Dutton (2003) and Heaphy and Dutton (2008) suggest that people experience positive physiological effects from HQCs (e.g., healthy heart rate and blood pressure in their cardiovascular system and higher levels of oxytocin released and healthier cortisol patterns in their neuroendocrine system), and those effects can yield physiological resourcefulness that support higher levels of work engagement. Also, given that resources often travel in caravans (Hobfoll et al., 2018), it is possible that the benefits conferred through HQCs also fuel other psychological resources – potentially feelings of confidence or a sense of worth and value – that enhance work engagement and mitigate exhaustion.
It is worth noting that the effects of HQCs on end-of-day exhaustion were not present in a full SEM model, where general burnout was used as a control variable rather than the subdimensions. Additional investigation into the effects of HQCs on end-of-day exhaustion is warranted to further understand the role that HQCs play on day-levels of exhaustion for individuals who are already chronically suffering from burnout.

Exploratory analyses further emphasized the importance of connection quality over quantity, as the total number of interactions and length of time that participants expended engaged in interactions did not make a difference in end-of-day engagement or exhaustion. In addition, when breaking down the end-of-day engagement into subdimensions (vigor, dedication, and absorption), HQCs predicted each subdimension, but dedication levels were the highest. Engaging in HQCs nurtures employees’ sense of involvement in their work and feelings of inspiration, significance, enthusiasm, and challenge. In Dutton’s (2003) book, she continuously emphasized that HQCs led to higher energy, but an important future focus could highlight the way that HQCs impact dedication in a work setting.

Based on Dutton’s (2003) proposed HQC pathways, I tested respectful engagement, task enabling, team trust, and propensity to trust to determine if they predicted HQCs. Team trust and propensity to trust were both used to tap into different aspects of trust – either from a teams-based context or based on an individual trait. Propensity to trust did not predict HQCs, suggesting that individuals who are open and receptive to trusting others does not necessarily reap the benefits of higher quality connections. Interpersonal trust is distinct from dispositional trust as it does not involve an individual’s propensity to trust, but it is based on a specific relational connection (Zaheer et al., 1998). Given the interpersonal nature of connections, the reciprocal component of trust as a relational construct is integral to understanding how it relates
to HQCs. Team trust, on the other hand, predicted HQCs. This suggests that an environment conducive to trust (i.e., a high trust team) is more likely to yield HQCs. Respectful engagement and task enabling, which also tapped into the work environment (i.e., other people in the organization and team) rather than individual proclivities, also each individually predicted HQCs. These results reinforce the importance of creating an environment where people engage respectfully, trust one another, and provide instrumental support to one another.

Despite individually predicting HQCs, when the pathways were measured in the same model (i.e., respectful engagement, team trust, and task enabling), they did not add incremental variance to predict HQCs. This finding was duplicated when conducting the analyses using SEM: individual antecedents predicted HQCs, but in a full model, none of the antecedents predicted HQCs. A CFA suggests that these are still distinct constructs, but there is likely overlap in the variance explained, given the relatively high correlations and multicollinearity scores. This does not fully negate the influence that each pathway has in predicting HQCs, but suggests that in tandem, and particularly when accounting for participants’ base level of burnout, that the individual pathways did not account for a significant amount of variance in explaining HQCs. Further research could help elucidate these findings.

The results related to media naturalness were counter to prior beliefs about whether videoconferencing could still predict meaningful HQCs. When assessing how media naturalness impacted HQCs in isolation, audio-based interactions were less effective at producing HQCs, whereas videoconferencing and in-person yielded roughly equivalent results. Furthermore, the moderation analyses did not yield substantial differences, suggesting that respectful engagement, trusting, and task enabling are not influenced by media naturalness (i.e., whether the interaction took place in-person, via videoconferencing, or via audio). This result was surprising compared
to the previous research on positivity resonance, a construct similar to HQCs. Fredrickson (2016) felt copresence is a precondition for positivity resonance and Major et al.’s (2018) study found that face-to-face interactions produced higher levels of perceived positivity resonance compared to communicating via any technologically mediated means, including video.

These changed results could indicate a difference in pre- vs. post-pandemic interactions; prior to the pandemic, most employees relied on in-person engagements, and videoconferencing platforms were choppy and unreliable. The pandemic pushed employees to move online and rely on communicating via technology (i.e., video and phone calls, messaging, email, text), supporting Kock’s (2004) cognitive adaptation proposition that suggests that cognitive effort to communicate through a medium decreases with use and adaptation. At the same time, the reliance on videoconferencing forced videoconferencing tools to substantially advance to compete for market share. Videoconferencing’s naturalness and employees’ acclimatization with remote-based communication both improved due to the pandemic, which could be the reason that interactions do not need to be in-person to yield HQCs.

Throughout the analyses, the most consistently strong predictor variable was general burnout, which was used as a control measure. Given that burnt-out individuals tend to withdraw and experience cynicism and exhaustion, it clearly impacts the quality of their connections with others. Burnout was most likely to impact end-of-day engagement and exhaustion, as noted prior, but also substantially impacted HQCs’ proposed pathways in predicting HQCs.

Interestingly, the other control variables (extraversion and gender) tended to not play a role in HQCs in most of the results. Gender was not significant in any of the model in both HQCs predicting end-of-day engagement and exhaustion or the proposed pathways predicting HQCs. Extraversion only played a role with end-of-day engagement; individuals who were more
extraverted experienced higher end-of-day engagement, but extraversion did not influence HQCs predicting end-of-day exhaustion or the proposed pathways predicting HQCs.

**Study 1 Limitations & Future Research**

Study 1 had several limitations. First, participant data for was collected through Prolific, an online platform. Historically, crowdsourcing online from data collection platforms and panels did not always yield the best data, as evidence suggests that participants are less attentive and honest, and more experienced in taking surveys (Hauser et al., 2019). However, Peer et al. (2021) found that Prolific had the highest quality data compared to Amazon Mechanical Turk, Cloudresearch, Qualtrics, and Dynata. I also included attention checks and the data was cleaned to remove outliers and abnormal data to help ensure data quality. Thus, given the broad nature of the research questions, I crowdsourced from Prolific to obtain a sample of diverse employees with a range of experiences while aiming to minimize poor quality data.

There were also several limitations related to the DRM and survey measures. For instance, although participants rated the quality of each interaction they experienced from the day before, there is no background information on the established relationships that participant already had with their recipients. Participants who reported on interactions with close colleagues may be more inclined to have a HQC compared to participants interacting with a new coworker. Although participants were asked to specify if their client, customer, vendor, or patient interaction was new or established, it was too taxing to rate the degree to which participants knew each person in each interaction. Interactions could include large numbers of people, making it difficult to rate. Future research could explore how preexisting relationships impact the degree to which HQCs can occur.
Additionally, the antecedents measured did not always target the participants in the interaction. For instance, respectful engagement items asked participants to rate “organization members here”, trusting items asked participants to rate their team, and task enabling items asked participants to rate their coworkers. Thus, the ratings of the antecedents related to organization members would not apply to the work interactions held with clients, vendors, or other external individuals. That said, the antecedents represent the respectful engagement, trusting, and task enabling of the general work atmosphere, which could still amplify the overall ability to engage in HQCs. Future research could measure the antecedents specifically for the participants involved in the interaction, and then measure the extent that they contribute to HQCs. It could also expand to encompass the role of leadership and team environments, and the role that disrespectful engagement and task disenabling play in curtailing HQCs.

HQC
cs were also measured using the positivity resonance scale validated by Major et al. (2018) rather than a scale specifically designated for HQCs. Although the scale tapped into all subjective experiences of HQCs and measured connections at the episodic level, the scale was still constructed for positivity resonance. Given that no other validated measure exists at the episodic level, this research used the positivity resonance scale. However, developing a scale specifically for HQCs could support future research, especially if research distinguished between the effects of each subjective experience of HQCs: positive regard, vitality, and mutuality.

In addition, the DRM is not a perfect means to accurately capture someone’s memory about their interactions. Although the DRM is touted as a less burdensome alternative to experience-sampling method while still reducing memory biases, some researchers suggest that the validity and reliability of the DRM is limited (e.g., Diener & Tay, 2014). Future research
should employ other diary study techniques such as experience sampling method to replicate these results and determine if the findings still hold.

Although participants could rate each interaction throughout their day, they did not measure its effects over time. This study only measured exhaustion and work engagement at the day-level. Future research can also investigate the long-term effects of HQCs in several different ways. First, longitudinal studies measuring burnout and work engagement over time could explore the longer-term impact of HQCs. Second, a longitudinal study could assess the process and rate of acclimation to new media or ways of interacting (e.g., how exhaustion from in-person interactions wane over time for individuals who were previously accustomed to remote work and virtual interactions). Third, there is an opportunity to learn more about the dynamics of depleting or corrosive interactions over time.

Finally, HQCs and outcomes were all self-report, individually-focused measures. Although an individual’s impression of the quality of their relationship is key to understanding HQCs, future research could explore the perceptions of HQCs from all individuals engaged in the interaction. Conceptually, HQCs should promote mutual growth so the ratings should be similar across all involved members. It would be interesting to investigate any differences among interaction members. It would also be imperative to measure the perspective of all individuals involved in corrosive interactions to determine each of their experiences of perceived incivility.

**Study 1 Conclusion**

The findings from Study 1 offered empirical insight into HQCs, particularly in the post-pandemic work landscape. The results suggested that HQCs lead to greater end-of-day engagement and potentially lower end-of-day exhaustion, and videoconferencing and in-person interactions yielded similar levels of HQCs. However, there were still questions about HQCs’
antecedents and an opportunity to delve deeper into HQCs to learn more about its impact on enhancing engagement or minimizing exhaustion and to understand how interacting via different mediums affect HQCs.
Chapter 4: Study 2

Study 2 further investigated the antecedents and outcomes of HQCs, with a particular focus on how the types of interactions impact HQCs. To explore HQCs in more depth, I employed qualitative methodology: reflexive thematic analysis (Braun & Clarke, 2006). The quantitative results from Study 1 informed the semi-structured interview questions in Study 2.

Thematic analysis encompasses three qualitative schools where researchers identify patterns, or themes, within their datasets (Braun et al., 2018). Coding reliability approaches use codebooks and inter-rater reliability to generate themes based on existing codes (e.g., Boyatzis, 1998; Joffe, 2011). Reflexive thematic analysis is considered a fully qualitative approach as it suggests that themes are derived as the output of iterative and organic coding, and data is actively and subjectively interpreted from the lens of the researcher (Braun & Clarke, 2006). Codebook thematic analysis is a blend of coding reliability and reflexive thematic analysis, as it offers a structured coding approach and determines the themes before running the analysis, but it uses some of the underpinnings of reflexive analysis (Braun et al., 2018).

For Study 2, I analyzed the data via reflexive thematic analysis. Reflexive thematic analysis is a flexible qualitative approach that can be used to focus on participants' lived experiences or, importantly, it can “examine the factors that influence, underpin, or contextualize particular processes of phenomena..., identify views about particular phenomena..., or interrogate dominant patterns of meaning surrounding particular phenomena” (Braun et al., 2018, p. 850). Given my aim to learn about HQC’s outcomes and contributors, and how naturalness (from virtual or in-person interactions) impacts HQCs, reflexive thematic analysis was an appropriate way to analyze interview data.
Method

Participants and Procedure

Participants were selected via convenience and snowball sampling procedures distributed through social media and personal contacts given the epistemological and methodological assumptions of my qualitative approach. Participants were incentivized to participate with a $10 TisBest e-gift card that could be donated to the charity of the participant’s choice upon completion of the interview. A total of 35 participants filled out a pre-screener survey with an informed consent for the survey and interview to verify that they fit the inclusion criteria, namely that they are 18 years of age or older, located within the United States or Canada, working full-time, and working with colleagues. Other demographic data was also collected (e.g., gender identity, managerial status). Participants were prioritized for interview selection if they worked in a hybrid fashion (i.e., partly working in an office and partly remote). Twenty-eight qualified participants received an invitation email to schedule a virtual interview via a Calendly link in August, 2023. Among the 28 invited participants, three did not respond or sign up for an interview, two canceled, and one did not show up at the time of the interview. In total, 22 participants engaged in a one-on-one Zoom interview. At a minimum, Braun et al. (2018) suggest that a very small study should include at least five or six participant, so over 20 participants was deemed acceptable for this study given that there is no preordained rule for number of interviewees or saturation point in the data in reflexive thematic analysis.

Participants predominantly identified as women (72.7%), White/Caucasian (77.3%), worked in companies with over 1,000 employees (63.6%), and managed other employees (63.6%). The majority of participants had a hybrid work setup (68.2%), which means they reported spending between 10%-90% of their time working in the office and remainder of the time working remotely. The average participant age was 40.8 years (SD = 9.33), average role
tenure was 4.6 years (SD = 5.50), and company tenure was 5.7 years (SD = 6.00). For participants who were managers, they had an average of 3.5 direct reports (SD = 1.78). For additional demographic data, see Table 16 below.

Table 16

Interview Participant Demographic Data

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Number of Participants</th>
<th>Percent of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender Identity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Man</td>
<td>6</td>
<td>27.3%</td>
</tr>
<tr>
<td>Woman</td>
<td>16</td>
<td>72.7%</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>17</td>
<td>77.3%</td>
</tr>
<tr>
<td>Hispanic/Latino/a/x</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>Irish</td>
<td>1</td>
<td>4.6%</td>
</tr>
<tr>
<td>South Asian (i.e., East Indian, Pakistani, etc.)</td>
<td>1</td>
<td>4.6%</td>
</tr>
<tr>
<td>Southeast Asian (i.e., Vietnamese, Cambodian, etc.)</td>
<td>1</td>
<td>4.6%</td>
</tr>
<tr>
<td>Company Size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 1,000 employees</td>
<td>14</td>
<td>63.6%</td>
</tr>
<tr>
<td>Less than 10 employees</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>100 – 249 employees</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>249 – 1,000 employees</td>
<td>2</td>
<td>9.1%</td>
</tr>
<tr>
<td>50-99 employees</td>
<td>1</td>
<td>4.6%</td>
</tr>
<tr>
<td>Hybridity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hybrid (10-90% of time in office)</td>
<td>15</td>
<td>68.2%</td>
</tr>
<tr>
<td>In-Office (&gt; 90% of time in office)</td>
<td>3</td>
<td>13.6%</td>
</tr>
<tr>
<td>Remote (&lt; 10% of time in office)</td>
<td>4</td>
<td>18.2%</td>
</tr>
<tr>
<td>Managerial Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manager</td>
<td>14</td>
<td>63.6%</td>
</tr>
<tr>
<td>Individual Contributor</td>
<td>8</td>
<td>36.4%</td>
</tr>
</tbody>
</table>

Note. There were 22 participants. The demographics included represent interview participants’ selected identities. For instance, no participants identified as Non-Binary/Third Gender as their gender identity, so it was not included above.
Before recording the interview, participants were informed at a high level about the topic of conversation (i.e., interactions at work), reminded that their participation was voluntary and responses would be confidential, and given the opportunity to ask preliminary questions. Once the baseline information was established and the participant verbally agreed to record and have the interview transcribed (though they had already agreed in the informed consent in the eligibility survey), I recorded both on Zoom and on Otter.ai to save the transcript. After wrapping up the questioning, I turned off the recording and gave participants the opportunity to debrief and answer any questions about the research. On average, the recorded portion of the interviews lasted 47.4 minutes (SD = 8.35).

During the semi-structured interviews, participants were asked a range of questions related to the primary research questions. Although the exact flow and structure of the questions varied by participant due to the fluid nature of the semi-structured interview, participants generally responded to similar questions under several core domains: work environment and hybridity setup, general example of an average workday and feeling at the end of the day, examples of engaging and exhausting interactions, and examples of engaging and exhausting full days. Throughout, participants who engaged in any virtual communication were probed about their experience and perceptions of communicating virtually and often asked to compare in-person to remote correspondences. Upon concluding each interview, I wrote a quick memo to capture key takeaways and my personal experience connecting with each individual, including general reflections and a note about my energy level upon completion of the interview.

Within reflexive thematic analysis, there are a range of theoretical assumptions that characterize and influence the data analysis. The present research adopted a social constructionist epistemology, a predominantly, though not exclusively, inductive approach, and a combination
of semantic and latent coding, with an emphasis on latent coding. Using social constructionism as a paradigm enabled a more nuanced understanding of participants’ perspectives as socially constructed rather than as a mirror of participants’ objective truths and realities (Burr, 2015). Constructionism encourages reflexivity from the researcher and proposes that a participant’s reflection is concurrently a description of their experience and part of the experience. The analysis was predominantly inductive, as the data was open-coded and data driven. However, given that inductive and deductive approaches are not mutually exclusive and are frequently used in combination (Braun & Clarke, 2013), there was still a degree of deductive analysis employed to ensure that the themes were meaningful to the research questions.

Additionally, both semantic and latent coding were utilized, though there was a stronger emphasis on latent coding. Semantic coding is more explicit and rooted in surface-level interpretation of participants’ verbalized responses. This process was helpful for more straightforward claims from participants. Latent coding is imbued with more meaning making and interpretation, requiring more involvement from the researcher. This process was helpful when a surface-level interpretation would not suffice; for instance, if participants made somewhat contradictory statements (e.g., preferring in-person interactions but sharing examples of energizing remote interactions) or if their context or situational circumstances seemed to influence their preferences (e.g., participants with young children were often partial to enhanced flexibility).

The analysis followed the six phases of reflexive thematic analysis: familiarization, generating codes, constructing themes, revising themes, defining themes, and finally, producing the results and discussion to describe the findings (Braun & Clarke, 2006). The iterative coding and theme-making process yielded a range of themes either directly or indirectly linked to the
main research questions. All participants were given IDs to maintain confidentiality, but the first letter in their participant ID reflected their level of hybridity (i.e., remote participant IDs began with the letter “R”, in-office participant IDs began with the letter “O”, and hybrid participant IDs began with the letter “H”).

**Study 2 Results & Discussion**

The identified themes fell under two overarching categories: energizing and depleting interactions, and virtuality and media naturalness. Given the challenge of broadly assessing work engagement and burnout, which are more chronic and long-standing, the questions asked in the interview tended to focus on interactions and interpersonal engagements that tended to be energizing or exhausting. The five themes identified were related to the first two research questions: whether HQCs led to engagement and burnout, and what antecedents of HQCs are relevant. The second category, focused on virtuality and media naturalness, included four themes related to the varied ways participants interacted with their colleagues: in person, via videoconference (with the camera on), via audio (on a phone call or a videoconference with the camera off), or even through messaging and email. These themes were pertinent to the final research question, about whether media naturalness impacted HQCs. Table 17 includes the full list of themes.
### Table 17

**Qualitative Themes**

<table>
<thead>
<tr>
<th>Category</th>
<th>Theme</th>
</tr>
</thead>
</table>
| Energizing & Depleting Interactions | 1. HQCs are energizing, but non-HQC interactions can be energizing as well  
  2. Exhausting interactions often come from notoriously difficult individuals  
  3. Simultaneous feelings of energy and exhaustion accompany a sense of accomplishment  
  4. Managers and team climate influence the way team members interact  
  5. Sustaining high-quality relationships requires HQC renewal  |
| Virtuality & Media Naturalness | 6. An acclimation period is required for any change in interactions in both directions: in-person to remote and remote to in-person  
  7. Working in-person tends to have more *interpersonal* benefits whereas working virtually tends to have more *personal* benefits  
  8. Energy experienced in-person is amplified – for better (positive emotions, empathy) and for worse (negative emotions, distractions)  
  9. Although camera-on video interactions confer greater benefits, there are reasons when camera-off is sufficient |
Energizing and Depleting Interactions

The findings from Study 1 suggest that high levels of HQCs lead to end of day engagement and low levels of HQCs may lead to end of day exhaustion. Due to those results, participants were asked to recount interactions and days when they felt particularly engaged or energized, and when they felt exhausted. Accordingly, I identified five themes within this category: 1) HQCs are energizing, but non-HQC interactions can be energizing as well, 2) exhausting interactions often come from notoriously difficult individuals, 3) simultaneous feelings of energy and exhaustion accompany a sense of accomplishment, 4) managers and team environments influence the way team members interact, and 5) sustaining high-quality relationships requires HQC renewal. The following section elaborates on each of the designated themes.

HQC's are Energizing, but Non-HQC Interactions can be Energizing as Well

When reflecting on their most energizing and exhausting interactions and days, participants sometimes described engaging in nice conversations (for energizing interactions/days) or working with rude or mean individuals (for exhausting interactions/days), which suggests that high- or low-quality connections impact participants’ energy levels. This corroborates the results from Study 1 that found that higher-quality connections led to end of day engagement and lower levels of exhaustion. That said, other types of interactions also led to high levels of energy and exhaustion that were not characterized by HQCs or corrosive interactions. According to Dutton and Heaphy (2003), HQCs are characterized by three subjective experiences: mutuality, positive regard, and vitality. Although energizing interactions seemed to imbue positive regard and vitality, they did not always appear to encompass mutuality.

In fact, three opposing categories emerged that described the reasons participants experienced higher or lower levels of energy, and only one was directly tied to HQCs/corrosive
interactions. The first category was related to experiencing high- or low-quality connections, the second was related to deviating from one’s routine work, and the third was related to accomplishment. See Table 18 below to view the opposing categories and sub-categories.

**Table 18**

*Work-Related Energizing and Exhausting Interactions*

<table>
<thead>
<tr>
<th>Energizing Interactions</th>
<th>Exhausting Interactions</th>
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</thead>
<tbody>
<tr>
<td>High-quality connections – Experiencing respectful engagement</td>
<td>Low-quality connections – Lack of respectful engagement</td>
</tr>
<tr>
<td>Time and space to connect with others</td>
<td>Dismissive or rude/mean individuals</td>
</tr>
<tr>
<td>Deviate from routine work - Excited by novel/different work</td>
<td>Deviate from routine work - Overwhelmed by demanding work</td>
</tr>
<tr>
<td>Brainstorm sessions</td>
<td>Back-to-back meetings or nonstop work</td>
</tr>
<tr>
<td>Engaging in something interesting</td>
<td>Reactive work with quick turnarounds</td>
</tr>
<tr>
<td>Sense of accomplishment – Feeling a sense of achievement from hard effort</td>
<td>Lack of accomplishment – Prevented from making progress (task disenabling)</td>
</tr>
<tr>
<td>Strong feeling of accomplishment</td>
<td>Incompetent or unprepared individuals</td>
</tr>
<tr>
<td>Recognition and positive feedback</td>
<td>Dealing with tough individuals/groups</td>
</tr>
<tr>
<td>Generated positive outcomes for others</td>
<td>Feeling like things are out of your control</td>
</tr>
<tr>
<td>Having clear next steps/path forward</td>
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</tr>
</tbody>
</table>

92
Experiencing HQCs (For Energizing Interactions) or Corrosive Interactions (for Exhausting Interactions). Participants reminisced about the days they were able to connect with their colleagues or clients. For example, one participant mentioned that his energizing day was “…a day when we’ve gotten caught up on everything…I love to just go over to maintenance and walk in and just check in with those guys…And I usually walk out of here maybe early feeling pretty energized” (Participant H13). Another participant talked about a day she flew to another city to meet with a previous team; “I got my work done, but I felt really great because I got to catch up with some people that I indirectly work with…talk about, you know, your life… they’re invested in that and care about you” (Participant H12). As evidenced by the participant quotes, the days that they engaged in HQCs were also days that they had time to dedicate to connecting with others. Again, this links back to the Study 1 findings related to burnout; when participants are overwhelmed with work, they may be less likely to engage in HQCs, which then perpetuates their feelings of burnout. As referenced in COR theory, individuals need to invest resources to accrue additional resources (Hobfoll et al., 2018). If participants do not invest time to engage in HQCs, it becomes more difficult to experience energy and engagement.

Participants who experienced corrosive interactions were prone to feeling exhausted. These corrosive interactions were characterized by offensive nonverbals (e.g., turning away or covering one’s ears), going behind participants’ back to present to leadership without extending any credit, giving one-word answers to complex questions, exhibiting a “poor attitude” by being mean and laughing at her ideas, or acting in a blatantly rude manner because “they thought that they were just God’s gift to everybody” (Participant H07). As one participant summed up, “…some days I feel…exhausted or frustrated or whatever depending on who I’m dealing with” (H29).
Deviating From Routine Work. The second category was characterized by deviating from one’s routine work, either exemplified by positive deviations from routine (such as new or different work) or negative deviations from routine (such as days that were overrun with demanding work). Positive deviations from routine were often seen as energizing, such as when participants engaged in a brainstorming session or partook in something interesting (e.g., taking on drama-fueled cases as a lawyer, talking about a subject like politics that is particularly enticing, or learning new things). Brainstorming sessions allowed participants to be fully absorbed and involved, think creatively, and engage in “fun activities” and “different exercises” (Participant H31). Brainstorming could also be an element of play (a theoretical contributor to HQCs per Stephens et al., 2012), given that it loosens the formal rules of engagement and breaks the formalities often exhibited in professional settings by encouraging impromptu thinking via assorted prompts and creates a safe space to share grand ideas without consequences. That said, these do not always fall under the domain of HQCs, as the interactions are not necessarily generating a sense of mutuality. This is evidenced by the fact that many participants did not refer to interactions where they felt particularly connected to another individual within this category. As an example, when one participant was probed about whether the topic of the brainstorm or the people involved were energizing, he responded “It’s the topics…because it’s definitely not always the people…even [with] the people I dislike I’m totally happy and excited” (Participant H29). Other people partook in the brainstorm session, but he did not feel a sense of mutuality or closeness to those individuals.

On the flip side, negative deviations from routine work, which were characterized as depleting and exhausting, were often referenced as days with back-to-back meetings, nonstop work, or reactive work with quick turnarounds (such as when a client makes a request for
something due the next day). This category was overwhelmingly cited by participants, who felt depleted from a deluge of work and meetings stacked without breaks. As chronic burnout was a major contributor in every model tested in Study 1, it makes sense that perceptions of work overload (“…exhausted from the volume of work” (Participant H21)), lack of breaks (“When I’m the most worn out is when I have back to back to back intense meetings” (Participant H13)), and reactive work (“I think true burnout comes when we have those, you know, ad hoc reactive requests that just kind of throw everything in limbo” (R19)) would contribute to exhaustion.

Although most participants tended to collaborate with others, they never mentioned the nature of individual interactions during their packed days. When the demands of their work exceeded their capacity, they were depleted of resources (per COR theory; Hobfoll, 1989) and struggled to focus on any positive events that may have also occurred that day.

**Sense of Accomplishment.** Participants felt that feeling accomplished was energizing and feeling that their progress was impeded (i.e., a lack of accomplishment) was exhausting. Participants most frequently cited feeling accomplished as their most energizing interaction. In particular, when participants put in a lot of effort and preparation, and especially when their entire team stepped up and worked together and they presented their work, they felt energized. For instance, one participant noted, “I love and get such energy from seeing something like completed and done well and successful and people are thankful and happy for it” (Participant O14). This feeling of accomplishment was often coupled with recognition and positive feedback, especially when it came from people in power (e.g., leadership or clients). For example, one participant in sales noted that her company calls out anyone with big account win in a company-wide meeting, and she acknowledges that, “it absolutely does work… now everyone knows what we did… it’s nice to get the recognition. Six months it took, six months of hell, but it was worth
it. It was worth it. You get a call out” (Participant R05). Another participant shared that getting
great feedback from a new launch or rollout makes a huge difference; “…I just feel like those
things are definitely driven by, I don’t want to say the approval of others, but essentially, that’s
what it is. Like, you know, getting recognition or validation” (Participant H16). Participants also
mentioned that when an outcome is beneficial for others, they are also energized. Participants
referred to accomplishing something for their company or team, their clients, or their
congregants. For example, one participant mentioned, “…just like knowing that I was with
people who, like, I made their day better. They were so happy, like whatever work I’d put in
ended up making them happier…those were the best” (O08). Finally, when their accomplishment
was paired with clear next steps or a path forward, participants also felt extremely motivated and
energized. As one participant described a recent accomplishment after putting in tremendous
effort, he added “And then, what’s next. It’s keeping tension. It’s keeping excitement, right? It’s
like, here’s all the work that we’ve done. Here’s all the work we still have to do…when people
align in that sense, it’s really energizing” (Participant H21). Similar to the previous category, a
sense of accomplishment also did not often count as a HQC. Participants felt pride and energy
for themselves and their team, but they did not necessarily feel a sense of mutuality with the
people in power who often received and praised their work. The energy was often internalized.

On the other hand, when participants were working with others who infringed on their
progress, they felt exhausted. Dutton (2003) cites task enabling as one of the core contributors to
HQC; in these cases, task *disenabling* was the root of the problem. Participants felt frustrated
and deflated working with others who were incompetent, unprepared, or unreliable. As one
participant explained,
…it's frustrating because there's like, every meeting is, feels like a game of 3D chess where I'm trying to get them to this other place, and they do not want to go. And I'm like, what if I opened this door over here? And like, what if I asked them in this way? I kind of asked the same question three times in different ways to see if the answer is different, and it just feels like I put in a lot of work. And that commitment and energy is not really met by the other people. (Participant H17)

Participants similarly felt this way when dealing with people who were tough to deal with: they’re combative, inflexible, or refuse to listen to participants’ advice. Participants shared stories about individuals who asked them to do things 15 different ways or refused to listen to their professional advice and then the participants were responsible for fixing their messes, and these interactions depleted them. Finally, participants referred to instances when things felt out of their control. Sometimes, this lack of control was caused by being stuck in tedious, nonessential meetings. This overlaps with the back-to-back meetings related to breaking from routine – unnecessary or nonstop meetings are not only draining because they are irrelevant or boring, but also because they infringe on employees’ abilities to get work done. Other times, participants are blamed for the mistakes or others or there is too much ambiguity and they do not know who to report to or what they should do. One participant, who was applying a framework she learned in her leadership course, described an instance when she could not get any buy-in from her colleagues. She said, “…even though I’m using the formula…I can’t get buy in from this supervisor…I just walked out of there feeling completely spent. I felt useless. I felt angry. I felt helpless, ineffectual.” (H03). In all these instances, participants were relying on others to accomplish their goals, but they faced resistance, roadblocks, and challenges that made them feel frustrated and exhausted.
Exhausting Interactions Often Come From Notoriously Difficult Individuals

When reviewing participants’ descriptions of colleagues or customers who seemed to be involved in energizing or engaging interactions compared to those involved in depleting or corrosive interactions, the energizing individuals were portrayed by their tangible behaviors and actions (e.g., they verbally recognized great work, had high energy, reaffirmed their self-confidence) whereas many of the depleting individuals were depicted by their traits (e.g., “very demanding people” Participant O08), “intractable supervisor” (Participant H03), “people that are incompetent” (participant H32)) or presumed to be inflexible (e.g., “he’s also an older engineer…so you know, he probably doesn’t want to change” (Participant R34), “someone on my team, like, who’s just more difficult…that is their personality. And it’s known…they have an abrasive personality” (Participant H09)). These de-energizing individuals were known to be difficult, and participants would actively avoid them or anticipate frustration. For example, one participant relayed that she “could think of like three people that when I talk to them, I’m probably going to have more success if I’m just banging my head against the wall. And it’s every time” (Participant H16). Another participant, in reference to one of his subordinates, said, “it sounds like something that should be very simple and easy, but like, this person will, you know, 10 out of 10 times, like, fight it” (Participant H09).

When asked about how participants respond to these difficult individuals, they generally stated that they acted diplomatically – for instance, they prepared more in advance to ensure they had all the facts to present their case and they leveraged their leadership skills to manage difficult conversations. However, there were some indications that participants were frustrated and fed up with those individuals, suggesting they may not always respond in a civil manner. This falls in line with the fundamental attribution error, or the tendency of individuals to overemphasize
personality traits over situational factors or external motivators to rationalize the cause for certain behaviors (Ross, 1977). People who perceive acts of incivility tend to respond by enacting incivility themselves (Köhler et al., 2018). Once an individual or group is categorized as being notoriously difficult, others are prone to presume that they are difficult despite the specific scenario, causing them to act in an uncivil manner by responding to them curtly, having a shorter temper, or actively avoid them. Hints of incivility were occasionally referenced, such as one participant who stated she would never work with that person in later projects, another participant who tried to avoid their manager unless needed, and a different participant who minimized her interactions with a particularly challenging client:

… because of what I just went through, I don't give a shit. I don't care. You know, and… I'm really sorry, this is what we're doing for [the client]. And that's that. And I'm not engaging with her as much. I'm engaging when I'm told. (Participant H23)

This can ignite incivility spirals, as the individuals feel neglected, ignored, or rejected, causing them to respond with increased incivility in their subsequent behaviors.

Although these first two themes differentiated between energizing and exhausting interactions, participants also mentioned feeling both energized and exhausted at the same time. This concurrent feeling was often due to experiencing a sense of accomplishment.

**Simultaneous Feelings of Energy and Exhaustion Accompany a Sense of Accomplishment**

Many participants reported feeling both energized and exhausted at the end of the day. Although feeling energy and exhaustion are ostensibly incompatible given that they are on opposite ends of the energy spectrum (González-Roma et al., 2005), the energy predominantly stemmed from feelings of accomplishment and pride, and the exhaustion was a result of participants’ efforts to achieve their accomplishments. For example, one participant mentioned,
I could be energized and drained at the same time. And I don’t know if that makes any sense. But like, I got a lot accomplished today. But I’m just wiped out because XYZ event or…I was just on for those five straight hours… I do get energized from being on and then it also drains me. (Participant O08)

For some participants, the exhaustion component was purely physical. For instance, one participant stated, “The energize part is because everything went well … but you’re tired because the surgery takes a lot of focus…you’re like standing there all day”. Another participant reminisced about leading a workshop where she felt “so energized because I felt so accomplished for that day” but running the workshop was exhausting. She shares, “So it was like a weird, like, excited, but tired” (Participant R27). In these instances, participants exerted a tremendous amount of energy and focus, and while they are proud of what they achieved by their hard work, they are physically (rather than mentally or emotionally) exhausted.

One participant, when explaining her combined feelings of energy and exhaustion, differentiated between feeling negatively drained in a previous job to feeling more positively drained in her present job. Her past job, where she worked in person every day, felt more performative and restricted. In her current job, she felt like it was a treat to meet with her colleagues when she worked in her office one day each week, so her exhaustion felt different:

I feel, like now I would say I feel more tired in the way that you feel after you've done sports where you feel quite like satisfied and tired, whereas before I just felt constantly just like, like my brain was tired… I was just more negative tired and more drained.

Whereas now, I still feel somewhat tired and drained but it doesn't, it feels more positive. (Participant H17)
It is possible that participants who jointly experienced energy and exhaustion were feeling more of a positive drain – they were proud of their work and enjoyed collaborating with their colleagues. However, the exertion towards their achievement still left them feeling tired. This is distinct from burnout, given that burnt out employees not only feel exhausted, but also cynicism and a lack of efficacy or accomplishment (Maslach & Jackson, 1981). The nature of the exhaustion accompanying accomplishment is more transient and physical, rather than emotional, as a byproduct of the effort expended towards the accomplishment.

**Managers and Team Climate Influence the Way Team Members Interact**

The role that leadership and the general team climate play in influencing interpersonal connections is complex. Broadly speaking, participants in positive work environments with supportive leaders were more likely to engage in HQCs, whereas participants in negative work environments with toxic leaders (or reflecting back on previous negative work environments and toxic leaders) were less likely. This was similarly noted in Dutton’s (2003) initial theorizing, as she suggested that leadership and certain indications of positive work environments (e.g., rewards and recognition, values, interpersonal helping) contributed to HQCs.

Examples of climate and leadership influence on individuals’ interactions were evident from participants who juxtaposed previous work experience with their current work experience. For instance, one participant commented on how her previous relationships in her job as a litigator in a law office were more transactional, as she commented that, “I just knew what I needed to say and do in order to make everyone feel good and happy and smart so I can move on with my day.” In her current job, she notes that her colleagues are “gregarious and kind, and willing to work together” and that it influenced the way she, in turn, interacts with others; “I’ve learned to change the way I talk, I’ve learned to slow down. And you know, ask people what
they think before I say what I think…I’m loving it” (Participant H18). Another participant reflected on her previous job where she felt estranged from her colleagues and dismissed by her boss, and recognized that, “It actually made me behave in ways that I’m not proud of because I felt so alienated at the time.” In her current role, as a manager, she worked with her boss to create a “very thoughtful process” where “people feel included and engaged at work,” and she now admits “I love working in this team” (Participant H17). Finally, another clear example came from a social worker who worked with a variety of doctors. She recognized that the doctors “make or break…the team. Because they're kind of, in theory, the leader of the team, but their moods and their personalities can depend on how the day kind of goes for the whole team.” (Participant O04). Depending on the doctor in charge, her colleagues were more or less conversational and friendly.

The team climate and leadership influence fall in line with spurious crossover, one of the mechanisms in the crossover model that describes how transmission can occur (Westman, 2001). Spurious crossover is caused by shared experiences and stressors. When employees work in a positive work environment, they are more likely to interact positively via HQCs. When employees work in a negative work environment, they are more likely to disengage or have corrosive interactions with one another.

That said, there seem to be some exceptions to the pattern of the work environment and leader influencing the way team members interact. First, in relation to the leaders themselves, even some positive leaders create barriers that infringe on their ability to truly engage in HQCs with their team members. Certain leaders experience more difficulty connecting with their team members because of their hierarchical position. Although some leaders explicitly eschewed the practice of setting boundaries and distancing friendships with their colleagues (such as one
leader who acknowledged, “I know that in general people say you shouldn’t be friends with the people that you work with. And I don’t, I’m not a believer in that” (Participant H32), others maintained that level of formality. Given the power distance associated with leader-employee relationships (Anicich & Hirsh, 2017; Zumaeta, 2019), leaders are more prone to feeling disconnected from their team members (Gabriel et al., 2021) and may not engage in the same degree of HQCs. One leader, who frequently interacted with his team in a professional manner, described his team as “a lot more chatty than I am, and they're a lot more, lot more interactive with all the other teams like on a like personal friendly level” (Participant H09). Another leader, who cultivated a positive and encouraging work environment, noted that “there’s like a professional in-person mode that I turn on” when she is in the office and does not have the space to release her emotions when she’s upset. These examples demonstrate that despite their positive leadership style, leaders may impede their ability to genuinely engage in HCQs with their team members.

The second exception is related to excessive levels of workload. As reinforced by the Study 1 findings, there were some indications that when people were stressed out, buried in work, and/or burnt out, participants were less capable of engaging in HQCs. One manager, reflecting on his highly productive team, felt that there was a “cultural piece” missing:

It doesn’t feel like there’s an interest in really wanting to get to know each other outside of the work environment…I think we are under-resourced now. So, everybody is just taking on incremental projects on their plate. So, I think it’s definitely wearing people down. (Participant R19)

*Sustaining High-Quality Relationships Requires HQC Renewal*
The final theme in this category was related to sustaining connections. Some participants spoke about meeting up in person from time to time, either with clients or members of their company, to “renew the human connection” (Participant H29) and rekindle the relationship because employees “do [their] best work with people that [they] have a stronger relationship with” (Participant R27). This theme differentiates the idea of HQCs (which are momentary) and high-quality relationships (which are ongoing and recurring). Connections may be energizing, but for cultivating a more collaborative, and ultimately, productive work environment, high-quality relationships may be more essential. However, occasional HQCs help invigorate and sustain those relationships.

In essence, participants felt it was easier to ask others for favors or to reach out with questions when the relationship was established and maintained because it developed trust. As one participant explained, “Without trust,… you’re not going to tackle hard problems as well. …You’re sort of depositing in a bank that you’re going to draw on later. You know, hard things you’re going to ask people to do” (Participant H29). Another participant reflected on “how useful it was to meet in person” because “trust is developed. And then when I meet them again, online…the conversation’s a lot easier. And I feel like I can understand their perspective better. I can ask more questions” (Participant H28).

Nearly all participants who mentioned the need to rekindle their relationships spoke about the importance of meeting occasionally in person and engaging in HQCs to sustain interpersonal trust, though they could follow up later virtually. Lu et al. (2017)’s meta-analytic study similarly found that face-to-face communication facilitates interpersonal trust compared to computer-mediated communication. Given that this study was conducted prior to the pandemic, it is
notable that although participants acclimated to virtual communication, they still felt that trust was reinforced through intermittent in-person meetings.

The conceptual model in Figure 5 demonstrates how participants described how sustained HQCs helped them develop higher-quality relationships, especially when they occurred in-person (compared to remote). High-quality relationships, in turn, improved interpersonal trust, which helped them collaborate and encouraged higher levels of interdependent productivity (i.e., related to dyadic or team processes and/or outcomes).

**Figure 5**

*Conceptual Model of Recurring HQCs Leading to Productivity*

![Conceptual Model of Recurring HQCs Leading to Productivity](image)

The themes presented in the first overarching category focused primarily on HQCs regardless of the type of interaction. The next overarching category further explored themes related to media naturalness and virtuality, comparing remote interactions to in-person interactions.

**Virtuality and Media Naturalness**

Findings from Study 1 suggested that audio interactions generated lower HQCs than other modes of communication, but otherwise, video and in-person interactions led to relatively equivalent HQCs. Given these findings, participants were probed to understand differences between their virtual and in-person interactions. After the five themes related to energizing and
depleting interactions, I identified four additional themes related to virtuality and media naturalness: 1) an acclimation period is required for any change in interactions in both directions: in-person to remote and remote to in-person, 2) working in-person tends to have more interpersonal benefits, whereas working virtually tends to have more personal benefits, 3) energy experienced in-person is amplified – for better and for worse, and 4) although camera-on video interactions confer greater benefits, there are reasons when camera-off is sufficient. The following section walks through each of the remaining themes.

An Acclimation Period is Required for Any Change in Interactions in Both Directions: In-Person to Remote and Remote to In-Person

As the pandemic abruptly shifted in-office workers to remote settings, participants felt it was challenging to acclimate to online interactions. This follows Kock’s (2004) MNT and cognitive adaptation proposition: communication mediums that are less natural tend to be more cognitively taxing for people, which inhibits effective collaboration and people’s ability to truly connect with one another. However, people adapt to technologies over time, which mitigates the cognitive effort expended and enables people to connect more easily.

Participants who reflected on the earlier days of the pandemic shared that they had a hard time adjusting to remote, but it became easier over time. One participant described how their team lacked communication in the onset of the pandemic “because no one knew what we were doing. It was so sudden with the pandemic. And then over time, I think we all felt more comfortable with chat and meetings and communicating” (Participant H22). Another participant shared how “stressful” it was, given that she lacked experience with videoconferencing beforehand. Over time, she not only got used to the tools, but realized that everyone else was having the same experience and started learning a new set of cues to notice on video;
Trying to figure out how to act online… it was truly exhausting… It definitely became easier, well number one, technically I was understanding Zoom better. Like I didn't, I didn't get stressed out that I might somehow push something that would end that [meeting] … At first it felt like… you're wrapped up in your own your own experience. And then you're watching everybody having the same kind of technical issues or your dog jumping into the screen or whatever. I think that helped. And then just getting used to the cues like… okay, they're clearly not paying as much attention. So maybe we should wrap it up, right? … I think having, you know, some time to figure out all of those things made it a lot easier. (Participant H32)

Research from the onset of the pandemic highlighted extreme “Zoom fatigue” (e.g., Bailenson, 2021; Fosslien & Duffy, 2020), or exhaustion from videoconferencing. However, during those early pandemic days, employees had not yet grown accustomed to videoconferencing. The adjustment period helped the video experience become more natural, and employees generally acclimated to videoconferencing tools with time and continued use.

Interestingly, the acclimation period did not only encompass the shift to online, but also, the shift back to in-person. As one participant described how tired she felt after returning to an all-day in-person meeting, she shared, “I feel like I’ve been deprogrammed with people” (Participant R27). Another participant similarly shared her struggle, especially as she returned to the office wearing a mask; “when we came back in person, I was exhausted from the in-person interactions… it took me a good, I would say, two months to… get back to my energy level with being face-to-face with people” (Participant H32). That same participant expressed that, “I didn’t even know how to make small talk anymore… I don’t know what to say to people. I’ve been, like, just cooped up with my family for so long.” Participants became comfortable conversing
online to get work done, and then having more breaks between meetings to themselves. When they were in-person, they needed to be “on” all the time and fill in the voids before and after meetings with banter, and it was tiring.

It was also a challenge to meet someone in-person for the first time after only meeting them prior via video. One participant talked about how seeing someone in-person after meeting them online feels more “vulnerable” and “intimate,” and explained her challenge; “when I was taught as a child…this is how we meet new people. Like I have a framework for that, right? I don't have a framework for this sort of meeting them once you've already met them” (Participant H03). In terms of MNT, once the “natural” version of meeting and communicating with a person is online, it becomes less natural to see and recognize that person’s full features face-to-face, which translates into greater cognitive difficulty deciphering how to act and what to say. The acclimation period thus goes both ways: when adjusting to remote, and then when adjusting back to in-person.

As both virtual interactions and in-person interactions have normalized in the past few years, participants still cited specific benefits to interacting in-person and interacting virtually. Generally, in-person interactions confer interpersonal benefits, while virtual interactions elicit personal benefits.

**Working In-Person Tends to Have More Interpersonal Benefits, Whereas Working Virtually Tends to Have More Personal Benefits**

There are a host of specific reasons that participants referenced for in-person or virtual benefits, listed in Table 19 with example quotes. Although there are exceptions, most of the in-person benefits were interpersonal in nature, whereas the remote benefits seemed to be personal. For instance, participants, especially managers, preferred talking to people face-to-face so they
could read their colleagues’ body language, especially during difficult conversations or during presentations when they’re trying to read the room. That helped them fine-tune their reactions and navigate their conversations in a way that supported their colleagues or subordinates. Participants noted that in-person interactions helped build trust, enhanced collaboration (amongst dyads), and gave them opportunities to connect outside of their meeting time and with colleagues outside of their immediate teams. These reasons all boosted their interpersonal connections. Group meetings were frequently mentioned as well, as participants noted how difficult it was to focus, read everyone’s body language, or decide when and how to unmute and share feedback during group video calls. In-person group meetings cultivated an environment where people were more focused, comfortable speaking up, and attuned to everyone’s feelings. Generally, the most frequently mentioned personal benefit for in-person meetings was based on personal preference: some people just liked working and meeting in-person. That tendency could be a factor of their age or the way they had always been operating, as noted by several participants.

On the flip side, when participants shared their preference for working remotely and interacting virtually, their reasoning was often personal. For example, some participants felt consumed by meetings and in-person interactions when working in the office, whereas their remote work time incurred less distractions and interruptions. Participants, particularly parents, enjoyed the flexibility of working from home and juggling chores or walks during their breaks. Remote environments tended to be more relaxed than office environments, as participants could relish in more down time and dress more casually. Finally, participants shared that they were free from lengthy and stressful commutes. None of these reasons enhanced group productivity or connectivity, but they supported participants’ sense of balance and ability to focus on personal work.
# Table 19

**In-Person and Remote Work Benefits**

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<th>Benefits</th>
<th>Example Quotes</th>
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<tbody>
<tr>
<td><strong>In-Person Benefits</strong></td>
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</tbody>
</table>
| Easier to assess body language – especially for difficult conversations | “I just feel like face-to-face conversations are very different than Zoom conference conversations. People read each other differently. You know, we see what they're doing with their body…I think the flow is very different in a conversation.” (Participant H32)  

“I called in to guys last week to have a kind of a difficult conversation. For some performance issues. That's an in-person conversation… Because if I have you sitting next to me, it's easier for me to read your body language. It's easier for me to hear. It's easier for me to have a feel for the room. So it's super important to me. If it's even potentially a difficult conversation, it has to be in the same room.” (Participant H13)  

“I think [virtual interactions] makes it harder for me, you know, to be able to, like get a sense of…how quickly the conversation is falling off the rails… if I need to pivot if I need to change my tone, like making those kinds of like, micro adjustments... much more easy in person.” (Participant H09) |
| Builds trust | “[after working online for a while] I had just forgotten how useful it was to meet people in person. So, when I started having in-person meetings, either conferences or like the trips and demo, [I felt] oh, this is really good, because I get a lot more conversation. There is a, you know, the interaction is a lot… there's trust, I think maybe trust is developed.” (Participant H28)  

“Because [meeting in person] builds trust. And without trust… you're not going to tackle hard problems as well, especially if there's an emergency… without that personal connection.” (Participant H29) |
Better collaboration

“I'd much rather have a meeting live and in person. It's just not always an option. But I think a live meeting in a room together, you can get work done, right? Like having a working session works in-person. It doesn't work remotely” (Participant H21)

“[meeting in person helps understand] Faces, expressions, the ability to go: oh my gosh, I forgot about this!... it's the flow. I mean, like, I've spoken to [colleague name] four times today. I've spoken to [colleague name] a bunch of times….But it's also like, scheduled. It's not spontaneous… there's something about spontaneity, that helps collaboration.” (Participant H23)

“the person had missed emails and missed correspondence and then pled ignorance… If you're in a room together, if you're in person… [I] be like, can you show me what you're going to do? Instead of sending an email out into the ether and then not hearing back or not seeing anything. So I think there's a degree of like, helplessness.” (Participant H21)

Better for group meetings

“it's in general better to have [meetings] in person. Especially if you have more than, like, three to four people on the call. Because I feel like you're much more likely to kind of get a sense of what each person has to say or is thinking when you're in-person rather than on the call… it's easier when there's more people for someone to kind of just hang in the back and kind of be quiet…. But if you're in person, it's much more likely that that thing that's sitting in someone's mind like, hey, what about this? Or, you know, or even the casual post meeting conversation that you'll pick up something there that is actually important.” (Participant H09)

“Just because of attention. So if there's just one person, it's pretty easy to tell if they're multitasking, versus [if] there's more people…. there's more people so then you're thinking, okay, like, nobody's really going to notice if I'm doing something else, because I see somebody else looking this way, you know, turning their head to the right. They're clearly looking at their monitor and not at me. I'm going to do the same because I have to send this email.” (Participant H12)

“I think it's harder [to have video meetings]…I feel like a barrier for some people to unmute themselves… I have noticed in other people… think about am I going to unmute myself to say this, and how am I going to jump in? And there's that sort of audio problem sometimes, the audio like blocks the other person.” (Participant H17)
“You can see if people are engaged without having to, like, bounce between cameras. It's like, I can see everyone in this room. If I'm at a boardroom, I can see everyone in the room. So I think there's just more sensory feedback and so you feel a little bit more stimulated.” (Participant H21)

More opportunities to connect outside of meetings or immediate team

“You accomplish a lot more random interactions if you're occasionally in person with people that you, just, it's impossible to do over Zoom.” (Participant H29)

“In person, you're greeting them in a waiting room, so or off the elevator or whatever it is. So you have some time to observe their behavior in natural environment… There's, like, all these sorts of nonverbals that you miss when you're in a virtual setting.” (Participant H03)

“[When working remotely] only the people I work with is who I'm interacting with.” (Participant H31)

“What I enjoy about going in person… It's just nice to go to a different environment… I have friends from former jobs who also work in the same downtown area, so I'm able to see people that I wouldn't see, typically. And I like this spontaneous, like, I saw someone in the hallway and I can chat with them, you can't do that virtually.” (Participant H22)

General preference (potentially age-related)

“I actually much prefer the in person… when I took this job, I was so nervous about like, oh, five days a week back on the office, how is that going to be? I'm used to, like, throwing a little laundry and walking the dog at lunchtime. But I thrive off of the people… As much as I thought like, I would prefer being home I actually prefer being in the office.” (Participant O08)

“I don't care for [online or phone interactions]. I like to, like have real interactions with people.” (Participant O14)

“I'm 50 so I don't like doing zoom. If I can avoid it, I'd rather sit down and talk. I don't know if that has to do with age, but it's just my preference.” (Participant H13)

“And I think too, I'm old. So we did not have cell phones until I went to college. We had AOL Internet… so I don't know, I'm just more used to that, like, that personal connection and that in-person kind of experience because that's all I knew. We didn't have any of the other stuff growing up.” (Participant H07)
Remote Benefits

Fewer distractions

“If I need to put my head down and get some technical work done… I will try to work from home because I find it significantly less distracting, right? So I don't have my coworkers saying hey, you want to go get lunch? Or you want coffee? …Or just wanting to talk nonsense. I can lock myself in a room and put on Do Not Disturb and actually get work done.” (Participant H21)

“But in terms of like, getting things done, I don't get anything done [in the office]. Because I'm always in meetings, I'm pulled into a million different directions… when I get home is when I'm able to do the work… Because when I'm [in the office], I'm in calls.” (Participant H23)

“It's hard to get any actual work done in the office, because it's the time when you can like actually talk to people and then it's like, coffees and like catch ups and, you know, like, you'll see people in the kitchen or, you know, hey, want to grab a coffee? Want to go for a walk?” (Participant H31)

Increased flexibility

“in terms of why I would stay home: if I was feeling low energy, or if like I'm a single mom, and so if my daughter was home sick from school, or she or I had an appointment, it's easier for me to flex my time and go to an appointment in middle of the day if I'm home than if I'm at the office.” (Participant H03)

“It's easier to say, okay, I'm going to stop now. And I'm going to spend five minutes doing something different. And then I can come back to my work. Versus when you're in the office, you can spend five minutes doing something else, but usually that's something else is just a waste of time. It's like, I'm just going to look at the internet. I'm just going to, you know, play on my phone.” (Participant H22)

“At home, I'm now used to being in charge of like what food I have available to me and when I can eat and eating even during another meeting and then taking a long walk over lunch. So I kind of build myself in a little bit more self care time, even, you know, during the day and I find that those in office days can be you know, really they take all that back away.” (Participant H17)
<table>
<thead>
<tr>
<th>More relaxed</th>
<th>“I guess the difference is really all personal based, meaning I don't make a lot of effort on looking really perfect. I don't have to rush around the same extent because I'm not going anywhere.” (Participant H16)</th>
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<tbody>
<tr>
<td></td>
<td>“It's .... you have to hold yourself together. And you don't have a second really where you can relax. You can't be on your phone chilling, like there's no chill time. There's no chill time.” (Participant H18)</td>
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<tr>
<td></td>
<td>“You don't have to, like, carry out your whole appearance. You can just care about your appearance from here up (gesturing to top part of body visible on camera).” (Participant H22)</td>
</tr>
<tr>
<td>No Commute</td>
<td>“I think I better energy at the end of the day when I'm home because I don't have to deal with other people. Like the driving is more stressful than any of the work.” (Participant H16)</td>
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<td></td>
<td>“I love working from home because I get to spend time with my kid now. You know, like, I don't have to commute to the office, especially in [city] ... in [city], you know, just going off back and forth from the office would take me an hour and a half to two hours every day.” (Participant R19)</td>
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</table>
Energy Experienced In-Person is Amplified – for Better and for Worse

Many participants shared that they experienced higher levels of energy when interacting in-person compared to virtually. In-person, participants described “I get more energized” (Participant H21), “you can feel the energy more” (Participant H31), and “when you’re around people that are positive, you can literally feel the happy coming out of them” (Participant H07). Remote, participants feel the energy is “pretty mellow” (Participant H12) and that “you don’t get the same…intimacy or closeness” (Participant H07). As one participant summed up, “I think in-person, the energy’s amplified, maybe. And remotely, it gets, like, muted a little” (Participant H31).

In-person, employees may experience higher levels of emotional contagion and crossover, which increases the energy that they experience. Bakker et al. (2009) described several conditions that would amplify emotional contagion and crossover, and although some are individual-level factors (e.g., empathy, susceptibility, similarity with the source), conditions that focus on interactions (i.e., frequency of exchanging views) or the environment (i.e., climate) may help explain the amplified in-person energy. When in-person, employees likely have a higher frequency of exchanging views, as they continue to correspond outside of established meeting times, and the organizational climate has a stronger presence when employees are in the office compared to when they are at home. The degree of in-person stimulation also likely triggers more energy; as one participant shared, “there’s just more sensory feedback” (Participant H21).

Although energy can be a positive experience, and past researchers share that people want to increase, prolong, or repeat experiences that amplify their energy (Collins, 1993), enhanced energy is not always positive. Amplified in-person energy can be beneficial –
participants feel heightened levels of excitement during a positive experience – but it can also be detrimental for participants who feel exhausted from too many energizing in-person interactions or engaging in difficult or negative conversations. As one participant aptly noted, “it makes the swings, like, larger. If you’re, you know, feeling more energy [in person], then you’re feeling higher. But if you’re feeling lower, it’s even lower” (Participant H09). For example, in chronicling her days in the office, one participant felt it was difficult to spend all day in-person because, “I’m with people the whole time. That’s a different kind of energy in terms of, like, you know, being ‘on’. Whereas if I’m on the phone with clients…it’s lighter” (Participant H23). Another participant described a point where she felt so tired from back-to-back in-person meetings that she couldn’t speak another word; “I could not bring myself to talk. I was so exhausted. I was talked out…I feel like being online is a little bit more, I don’t know. I think in-person interactions are really exhausting” (Participant H28).

When participants engaged with others virtually and felt angry or sad, they had the space to vent or cry at their discretion, rather than bottle up their negative energy through emotional suppression or take the extra time and emotional resources to reappraise the situation to display the appropriate emotion (i.e., emotional labor strategies to portray appropriate public displays; Hochschild, 1983). In person, those outlets do not exist, and participants reported that they needed to engage in emotional management more frequently to control their pent-up emotions. Since individuals have limited resources to manage their performance, expending resources to regulate themselves in-person in one instance (e.g., using suppression to hold back tears when they are upset) makes it more challenging to regulate themselves in later instances (Muraven & Baumeister, 2000) and tasks (Goldberg & Grandey, 2007). When remote workers experience negatively energizing interactions (e.g., frustration), they do not need to sustain their emotional
displays or regulate their emotional expression throughout the day as much as if they were in person.

**Although Camera-On Video Interactions Confer Greater Benefits, There Are Reasons When Camera-Off is Sufficient**

The final theme in this category focuses on video interactions, and the reasons that participants engaged in virtual interactions with the cameras on or off. The results from Study 1 indicated that audio interactions led to lower levels of HQCs compared to in-person and videoconferencing with the camera on, and while most participants agreed, many still indicated that there are reasons or occasions when it is appropriate or preferred to have the camera off.

As stated, most participants agreed that there are many benefits conferred when the camera is on during videoconferences. For example, it is easier to read social cues and respond appropriately. One participant, who had a background in sales, explained “I’d say that’s 50% of what sales is, is just understanding how to play off your client or your colleague or your counterpart. So to me, it’s about understanding emotions” (Participant R19). The social cues “make humans more comfortable” (Participant R34) because you can see someone’s attentiveness and affirmation (e.g., head nods). Those cues can help the other person in the interaction, but it also helps the speaker; as one participant admitted,

“It’s easy to get upset and get a little snippy if no one sees your face…but if you’re on camera and you can see yourself…there’s a bit more of a tendency to soften your features and be a little bit nicer” (Participant H21).

Participants also felt that camera-on also builds trust and rapport, especially with clients. As one participant shared, “I think [camera-on] just builds a sense of trust with the client. Just seeing people behind the screen as opposed to just the little icons I think is helpful” (Participant
Another participant reflected on her camera-on lunches and happy hours with a client and felt, “I think it makes a huge difference…we are able to understand each other a lot more. We’ve been able to build trust” (Participant R27). There is also a better sense of engagement and focus. As one participant explained, “It helps me also because I do tend to be easily distracted and I feel more accountable to stay more focused when I know the other person could see me” (Participant H16). Individuals also get more cues that signal engagement because “you can’t hear” head nods and you get more of “a connection when people have their cameras on” (Participant R27). In essence, employees can demonstrate respectful engagement through nonverbals when they have their camera on, since facial expressions, head nods, and note writing also demonstrate presence, focus, and care. When the camera is off, the only designations of respectful engagement occur through verbal acknowledgements or written comments. This reinforces the Study 1 findings; camera on could lead to higher levels of HQCs.

Despite the range of benefits from engaging in videoconferences with the camera on, many participants justified occasions when camera-off was appropriate or preferred. For example, when trust was already established, individuals did not always need to have their cameras on. As one participant described why he felt he did not need to have his camera on for regular team meetings, “We know each other and I don’t feel the need to be staring at them…I don’t think there was really a major benefit to that” (Participant H09). Participants also noted that they followed the lead from their clients or vendors – if their video was off, they followed suite. Finally, some participants had their cameras off when they were not presentable or when they were driving or eating.

Participants could still engage in HQCs when they corresponded via audio (either on the phone or in a meeting with the camera off) – for example, one participant had a great phone call
with a client that she had no pre-existing relationship with, describing her as “a sweetheart. She is so adorable on the phone. She’s just fun” (Participant H07) – but in those instances, they generally find something in common to bind their connection. In the prior example, that participant and her client bonded over the small size of their companies and relationships they needed to manage with dismissive and rude representatives; “we’re two little companies and we just kind of get it. So I think that was where the…clicking came in” (Participant H07).

Generally, though, it seems that the increased sensory feedback shared through video or in-person interactions generate higher levels of HQCs.

**Methodological Reflections and Future Research**

Study 2 explored HQCs in more depth and probed into some of the more surprising results from Study 1 (e.g., what leads to HQCs? How has perceptions of media naturalness changed for videoconferencing since COVID-19? What role does burnout play in HQCs?). Despite the advantages of Study 2, there are some methodological reflections that could inspire future research.

First, employees volunteered to participate in semi-structured hour-long interviews for a minimal charity payout, which could lead to self-selection bias (Costigan & Cox, 2001) because those participants are more open, patient, and invested in the topic of discussion than the general population (Robinson, 2014). Although I had a few participants who shared they had more lax schedules that enabled them to engage in such lengthy interviews, a large number of participants shared that they were frequently overwhelmed with work, but they participated because they were interested in the research, had family members who previously conducted research, or thought it was important to contribute to this research. This intrinsic motivation may have been compromised had the payout been more substantive.
I also decided to use an interactive qualitative method (interviews) to probe and interrogate participants, which led to more depth and nuanced responses. However, that decision came at a cost – employing a qualitative survey method (i.e., asking open-ended questions in a survey) would have allowed for a larger sample for greater breadth of responses. Although I did not aim for generalizability, and I found patterns of results from the current sample, a larger swath of participants could have invited additional findings. The purpose of this research was not explicitly comparative across gender, race, education, etc., but there were some indications that there may have been some differences in HQCs by age (some participants noted that younger employees were less likely to engage meaningfully with colleagues outside of their age group). Participants in this study were primarily over the age of 30, so no themes were generated around age. Variations of HQCs by age is ripe for future research.

Similarly, this research was conducted on participants from the United States or Canada. Future research could explore cultural variations in HQCs along different cultural dimensions (Hofstede, 2001). For example, employees from countries higher in masculinity (i.e., the extent winning, toughness, and competitiveness are valued; e.g., Japan, Hungary) may not express sympathy or connect with individuals at work the same way as countries lower in masculinity. Another example could be power distance; employees from countries higher in power distance (i.e., the extent less powerful members of a company assume power is not distributed equally; e.g., Mexico, Russia, China, Malaysia) may purposefully interact differently or engage in fewer HQCs with colleagues designated in higher or lower hierarchical levels.
Chapter 5: General Discussion

Key Findings and Theoretical Contributions

As work becomes increasingly disbursed and employees extensively rely on communication technologies to interact, the research around HQCs becomes exponentially more important – especially as burnout continues to grow. Research on building connections demonstrated that in-person interactions are necessary pre-requisites (e.g., Major et al., 2018) but that research was conducted before employees became attuned to videoconferencing post-pandemic and remote work became commonplace. This research focused on three primary research questions related to HQCs: how HQCs impact burnout and work engagement, which theoretical antecedents of HQCs are relevant, and whether media naturalness impacts HQCs. Through mixed methods, these studies add empirical evidence to Dutton’s (2003) theoretical research and provide a deeper understanding of HQCs in virtual interactions.

HQC, Burnout and Work Engagement

Given that work engagement and burnout reflect “relatively enduring” (Christian et al., 2011, p. 94-95) or chronic (World Health Organization, 2019) states, respectively, and HQCs can be brief and momentary, the present studies assessed HQCs impact on work engagement and burnout in different ways. For Study 1, using the DRM, I measured how HQCs occurring throughout the day predicted end-of-day engagement and end-of-day exhaustion while controlling for general burnout. For Study 2, participants’ energy levels were indicators of participants’ levels of engagement (e.g., high energy, excitement) and exhaustion (e.g., low energy, fatigue).

Notably, the qualitative findings uncovered that energy and exhaustion were not always mutually exclusive; many participants described a combined sense of energy and exhaustion. This joint feeling accompanied a sense of accomplishment. In these cases, the exhaustion was
not chronic or an indicator of burnout. Rather, it was described as transient and following immense physical and/or mental effort expended in pursuit of accomplishment. In this sense, it is important to distinguish between short-term fatigue and long-term exhaustion. Employees may experience short-term fatigue from depleting (negative) or energizing (positive) interactions. For instance, an employee can feel drained following an aggravating conversation or from delivering a captivating presentation with colleagues that required prolonged effort.

Converging evidence suggests that HQCs positively impact employee energy and engagement. Results from Study 1 demonstrated that HQCs yielded greater end-of-day engagement and lower end-of-day exhaustion, even when controlling for subdimensions of burnout. These effects were not influenced by the number of interactions or length of time spent engaging in interactions, suggesting that the quality of connections has greater effects than the quantity. Study 2 added more nuance to these results by asking participants to characterize their energizing and exhausting interactions and days. Participants shared examples that demonstrated that HQCs enhanced their energy while corrosive interactions depleted their energy. Aligning with COR theory (Hobfoll, 1989), these results suggest that HQCs are beneficial resources that can lead to higher levels of work engagement.

That said, most of the energizing examples shared by participants in Study 2 were lacking one of the defining characteristics of HQCs; participants reported interactions that gave them a sense of positive regard and vitality, but they did not appear to integrate any semblance of “mutuality”, one of the core subjective experiences of HQCs as proposed by Dutton and Heaphy (2003). Those interactions included deviating from routine work in the form of exciting or novel work (such as brainstorming sessions or engaging in something interesting) and experiencing a sense of accomplishment (often through recognition and encompassing positive outcomes for
others, as well as clear next steps). These findings are likely due to the peak-end rule (i.e., people’s tendency to retrospectively emphasize the peak intensity moment and the most recent episodes; Fredrickson & Kahneman, 1993), as participants were more likely to recall “intense” moments (e.g., major accomplishments) or deviating from routine work (e.g., brainstorm sessions), rather than general nice encounters, such as engaging in connections characterized by mutuality in terms of authentic care and compassion towards the well-being of both parties.

The power of HQCs is that they are not simply the result of intense effort or out-of-the-norm experiences; they are accessible and can occur daily, and still yield increased levels of end-of-day engagement. HQCs may be able to contribute to lower levels of daily exhaustion, over and above moderate levels of burnout, but employees who are wholly consumed with burnout may be less inclined to engage with other employees or benefit from HQCs. Long-term exhaustion, as an indicator of chronic burnout, is triggered by persistent misalignment between a person and their job in one (or more) of six categories: workload, control, reward, community, fairness, or values (Leiter & Maslach, 2004). Study 2 reinforced those findings as many participants expressed feeling particularly depleted when they were consumed by work or had back-to-back meetings, suggesting that they were experiencing the stressor of workload. Workload is known to infringe on employees’ capacities to meet the demands of their job, and when work overload becomes chronic, it triggers burnout (Maslach, 2017).

**Theoretical Antecedents of HQCs**

This research also assessed what contributed to higher levels of HQCs. Study 1 results that measured Dutton’s (2003) original antecedents (i.e., respectful engagement, trusting, and task enabling) yielded mixed results. Individually, the antecedents predicted HQCs, but when measured altogether, none of them were significant predictors. This could be due to the fact that
the antecedents were strongly correlated with one another (especially respectful engagement and trusting) and showed indications of multicollinearity. Additionally, the antecedents were measured at the team or organizational level rather than focused on the target of the interaction (e.g., employees did not rate the level of respectful engagement with each person they interacted with, but instead rated the respectful engagement with their colleagues in general).

The qualitative findings provided a broader understanding of what contributed to HQCs beyond the stated antecedents. Although elements of respectful engagement, trusting, and task enabling were identified in examples of energizing interactions, there was also an indication that the reverse was true: disrespectful engagement, distrust, and task disenabling led to negative interactions. Notably, participants that cited these negative interactions framed their colleague or client as being notoriously difficult. Given that those employees are branded as “difficult”, their colleagues may be more inclined to blame their behavior on their enduring characteristics rather than situational factors and therefore automatically treat them uncivilly through acts of commission (e.g., rolling their eyes or speaking rudely to them) or omission (e.g., avoiding them) in return. Research indicates that individuals who perceive they are victims of incivility are more inclined to enact incivility (Köhler et al., 2018), particularly amongst coworkers (Chris et al., 2022). Therefore, there is a caution that individuals may have lower quality connections, or even mistreat difficult colleagues who have engaged with them disrespectfully, broken their trust, or disenabled their task progress in the past.

Overall, the findings suggest that the environmental context matters; leaders and teams influenced the way team members interacted. Positive work environments contributed to humor, speaking up, trust, autonomy, constructive feedback, and support, whereas negative work environments triggered avoidance, isolation, and inauthentic conversations. The crossover model
(Westman, 2001) describes the mechanism that enables the transference of positive or negative states from common stressors and experiences as spurious crossover. In essence, team members are similarly compromised and more withdrawn from engaging in HQCs when they work under toxic leaders or competitive work environments, whereas team members are uplifted, motivated, and willing to engage in HQCs when they are buoyed by compassionate leaders, meaningful work, and an appreciative work environment. This also aligns with Dutton’s (2003) original theorizing, where she shared that the features of the context, including leadership, contribute to HQCs. In essence, positive work environments create work cultures conducive to engaging in HQCs, which then reinforce the positive work environment, cultivating an upward spiral of enriching work environments and HQCs.

**Media Naturalness and HQCs**

The findings around modes of communication and media naturalness in the post-COVID-19 landscape demonstrate that, to an extent, many employees have adapted to videoconferencing as a relatively natural form of communication. MNT (Kock, 2004) suggests that people exert more cognitive effort when communication mediums are less natural, which makes it more difficult to connect meaningfully and collaborate effectively. Therefore, the results from Study 1, which indicate that videoconferencing and in-person interactions were similarly effective at producing HQCs, indicate that videoconferencing is no longer a cognitive drain for many employees and can be considered a more natural form of communication. Audio-based interactions were still less effective at producing HQCs, which makes sense, given that audio interactions eliminate body language and facial cues that are foundational to natural interactions. As corroborated by Study 2, there was an acclimation period to register videoconference interactions as “natural” when the pandemic initially struck, and later, an acclimation period to
reintroduce in-person interactions. This falls in line with Kock’s (2004) cognitive adaptation proposition, where he suggests that the cognitive effort expended for using a new medium will decrease as individuals acclimate.

Study 2 also dug deeper into the rationales behind in-person compared to remote interactions, as well as camera-on compared to camera-off videoconference calls. Participants shared a host of interpersonal reasons that working in-person is more beneficial than working remotely, including the ability to read someone’s body language, build trust, collaborate effectively, navigate group meetings, or connect with colleagues outside of their team or beyond their meeting time. However, participants (particularly parents) described personal reasons that working remotely is more beneficial than working in the office, including fewer distractions, more flexibility, a more relaxed work environment, and no commute. For videoconferencing, camera-on clearly led to better interpersonal benefits and higher levels of respectful engagement, but there were reasons when camera-off was sufficient, such as when trust and comfortability was preestablished, the video recipient had their camera-off, or in instances when participants were not presentable, such as when they were driving or eating. Altogether, while more media-natural interactions were more effective at cultivating HQCs, participants shared that other important reasons dictated the way they engaged in less media-natural interactions – either because it was more appropriate for the situation or because it tended to their personal need for balance and autonomy.

An interesting finding highlighted by Study 2 participants was related to the energy participants experienced in-person compared to remotely. In person, participants felt that both positive and negative energy was amplified, whereas remotely, the energy was muted. Previous researchers noted that people want to enhance, prolong, or repeat experiences that amplify their
energy (Collins, 1993), but enhanced energy can also be experienced as negative, such as engaging in a mean or rude interaction. When working remotely, participants have the space and time to vent or express their emotions after experiencing negative interactions, whereas in person, they are forced to engage in emotional labor to manage their emotions.

Given that there are productivity and wellness benefits for both in-person and remote work, a hybrid work approach is likely the best balance for workers if the job permits such flexibility. Hybridity allows employees to optimize their time in the office for collaborative work and relationship-building while enabling personal flexibility and distraction-free focused work time during remote days. Hybridity also supports the Study 2 theme about the benefits of recurring in-person HQCs: occasional HQCs, particularly when they occur in-person, help establish high-quality relationships that enhance levels of trust and lead to higher levels of collaboration and, ultimately, interpersonal productivity. A hybrid environment can help sustain high-quality relationships at work by bringing coworkers together several days each week or month, allowing them to reap the benefits of in-person interactions while supporting individual colleagues’ preferences for remote work as well.

A hybrid approach was supported by Barrero et al.’s (2021) research, which surveyed over 30,000 Americans during the COVID-19 pandemic and concluded that, even post-pandemic, they felt that employees will work from home at least 20% of the time (one in five days). Their rationalization was based on their five key takeaways: 1) the remote work experience was better than anticipated, 2) advancements in physical and human capital enabled remote work, 3) the stigma surrounding remote work greatly subsided, 4) health concerns surrounding a full return-to-office might dissuade employees from committing to full-time in-office work, and 5) increased technological developments support remote work. Current trends
aggregated from public employment records indicate that hybridity is gaining traction: in 2022, hybrid job postings had increased six-fold compared to its pre-pandemic level (Rabbani, 2023). Given the personal benefits of working remotely and the investments and advancements that enable a more seamless remote work experience coupled with the interpersonal and collaborative benefits of working in-person, a hybrid approach could cultivate a balanced and productive work environment if implemented properly.

**Proposed Conceptual Model to Amplify HQCs in the Workplace**

Given the importance of cultivating HQCs, I offer a conceptual model as a roadmap to build and amplify HQCs in the workplace and inspire future research. This model is based on extant research, the findings from the present studies, and reinforced through my personal experience (and written in my research memos) as I aimed to cultivate HQCs with interviewees during the Study 2 data collection process (see Figure 6 for full model).

**Figure 6**

*Conceptual Model for Generating HQCs and its Outcomes*

*Note.* All relationships are positive unless noted otherwise (e.g., burnout).
First, three behaviors should help establish interpersonal connections: respectful engagement, self-disclosure, and commonality seeking. All three behaviors do not need to be implemented in every encounter, but they each help employees set the stage to connect with colleagues, vendors, clients, or customers. Respectful engagement, first and foremost, guarantees that one cares about their recipient by showing their attentiveness and affirming them. Individuals who are distracted or violate the foundational elements of respectful engagement will automatically diminish the quality of the connection. This corroborates Dutton’s (2003) initial theorizing around HQCs. Self-disclosure, or sharing personal information about oneself to someone else, can also play a pivotal role. In Collins and Miller’s (1994) meta-analytic review on self-disclosure and liking, they found that the two were related: people like others who disclose personal information to them. Although situational, cultural, and gender factors can affect self-disclosure (Ignatius & Kokkonen, 2007), self-disclosure is still an important way to develop HQCs because it promotes greater liking and helps cultivate strong interpersonal relationships (Altman & Taylor, 1973). Finally, commonality seeking helps employees find something in common with others. Optimal distinctiveness theory (Brewer, 1991) helps describe the opposing needs that individuals simultaneously experience within groups: the need to belong and feel included, and the need to feel unique and different. Although interpersonal connections (for HQCs) are distinct from group membership, the same rationale still holds. Finding commonalities helps individuals identify with one another and feel a sense of togetherness and belonging, as long as it does not eclipse one’s sense of uniqueness.

When authenticity (as an individual appraisal of another person or group to be what they appear or claim to be; Trilling, 1972) emerges as a mutual product of the initial connecting behaviors (respectful engagement, self-disclosure and seeking commonalities), it acts as a bridge
to HQCs. The cables or ties of that bridge are the characteristics of the HQC ties: self-disclosure may result in high emotional carrying capacity (feeling safe displaying the full range of emotions), respectful engagement may result in tensility (strength of the tie in tough situations), and seeking commonalities may result in high degrees of connectivity (generativity and openness to different influences) that help establish a sense of mutuality and positive regard that is not possible without the authenticity bridge.

The HQCs themselves still comprise of the subjective experiences as highlighted by Dutton and Heaphy (2003) – mutuality, positive regard, and vitality. However, the present research, as well as previous research on high-quality relationships (Carmeli, 2009), offer evidence that vitality emerges from HQCs. Thus, although HQCs elicit feelings of vitality, the vitality can be an immediate outcome from the connection and an indicator that the connection was high-quality.

High-quality connections therefore lay the groundwork for proximal outcomes, including trusting and task enabling. Dutton (2003) initially included trusting and task enabling as contributors to HQCs – I propose that HQCs plant the initial seed for trusting and task enabling, and the trusting and task enabling then contribute to further HQCs through a renewal cycle that can start by enacting new connecting behaviors or by reinforcing the bridging connection through a positive loop of enhanced authenticity. The upward spirals of HQCs, trusting, and task enabling then lead to positive distal outcomes including higher levels of performance (Carmeli, 2009) and wellbeing, including higher levels of work engagement, and lower levels of burnout. Experiencing greater wellbeing should also contribute to the renewal cycle that fuels HQCs, as higher levels of engagement and lower levels of burnout give employees the time, energy, and space to engage in HQCs. Per COR theory, when employees have available resources such as
feelings of engagement, they continue to experience an upward spiral of resources that allows them to engage in additional HQCs. When employees face heavy demands, such as feelings of burnout, they retreat to protect their resources rather than investing in further resources such as engaging in HQCs.

It is worth noting and reconciling a previous finding from Study 2, that sustaining high-quality relationships requires HQC renewal (as shown in Figure 5). Whereas the conceptual model in Figure 6 is focused on the experience at the individual level, the conceptual model in Figure 5 is more focused on the interpersonal level and integrates high-quality relationships that are sustained through ongoing HQCs. There is overlap between the conceptual models, given that HQCs in both cases lead to trusting, collaboration is a form of reciprocal task enabling, and interpersonal performance leads to collective productivity. However, the distinction lies at the level of analysis; the conceptual model in Figure 5 focuses on the collective level, as it can help explain how high-quality relationships can lead to organizational productivity, ultimately providing a theoretical framework to understand the mechanisms that contribute to social capital within an organization. The conceptual model in Figure 6 is more of a template for engaging in HQCs at the individual level.

There is an abundance of opportunities to further explore HQCs in the workplace, both at the individual level and at the collective level. The conceptual models for generating HQCs and its outcomes could offer a starting place to ignite additional research, but both the quantitative findings (from Study 1) and qualitative findings (from Study 2) offer novel insights and potential research and practice applications.
Strengths

This research offers numerous strengths based on its timing, methodology, and use of recently validated measurements. First, although virtual communication has been studied in the past, videoconferencing wasn’t as widespread and the quality was often not seamless, making the interaction less natural. This inhibited employees’ ability to connect through videoconferences. The COVID-19 pandemic, which started in 2020, propelled the adoption of videoconferencing and forced the platforms to exponentially enhance the quality of their videos. Thus, only newer research can accurately capture people’s ability to bridge quality connections in videoconferences. Even research from the onset of the pandemic had potentially skewed results (e.g., Bennett et al., 2021; Shockley et al., 2021), as participants needed time to acclimate to videoconferencing before it felt like a more natural correspondence. Employees and managers also adapted and started to understand and leverage best practices over time (Raghavan et al., 2021), potentially mitigating the fatiguing effects of meetings that employees initially felt (e.g., designating several minutes to talk about non-work topics at the onset of meetings to build rapport). The present research found evidence that employees do not experience a substantive difference between in-person and videoconferencing with the camera on in terms of generating HQCs; only audio interactions led to lower quality connections.

These studies also used mixed methods to both quantitatively and qualitatively explore HQCs, leveraging the strengths of each method and counterbalancing their limitations. Prior, most research on HQCs were conceptual, theoretical, qualitative, or tapped into similar but distinct constructs. Given the Major et al. (2018) scale that tapped into all three components of HQCs, Study 1 could empirically test HQCs. In particular, the DRM enabled participants to rate their interactions at the episodic level, minimizing retrospective bias without interrupting participants’ days with surveys (i.e., using experience sampling method). High quality
relationships have been measured in the past, but research on connections was limited because ratings would vary from one interaction to another. This research focuses on the connections themselves, allowing for within-subject variations based on their interactions.

The qualitative study built upon the DRM findings, allowing for a more in-depth exploration of HQCs. Unlike previous research, these semi-structured interviews were informed by the findings from the quantitative study and investigate the work landscape post-COVID-19. Leveraging reflexive thematic analysis, a fully qualitative approach (Braun & Clarke, 2006), allowed for an organic, iterative coding process. The themes identified broadened the lens through which researchers can investigate virtual interactions now that employees have acclimated to online interactions and re-acclimated to in-person interactions.

**Practical Implications**

These studies aim to inspire changes in the workplace to enable employee flourishing. As such, I offer practical implications for organizations, managers, and all individual employees to help cultivate a positive work atmosphere ripe for HQCs. Given that burnout and work overload hinder the ability to engage in HQCs, these recommendations aim to both enable HQCs while also offering additional initiatives to encourage balance and prevent or mitigate burnout (see Table 19).

**Table 19**

*Organizational, Managerial, and Individual Practical Implications*

<table>
<thead>
<tr>
<th>Organization</th>
<th>Promote HQCs</th>
<th>Other Initiatives to Prevent Burnout</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Support and reward relational practices</td>
<td>Offer a hybrid work policy</td>
</tr>
<tr>
<td></td>
<td>□ Reward team/company achievements</td>
<td>Maintain sufficient staffing and resources</td>
</tr>
</tbody>
</table>

133
Organizations should support and reward relational practices – not just as an espoused value, but as a foundational cornerstone of its culture. Relational practices, rooted in RCT, centers around growth-in-connection, or the idea that interpersonal connections help employees grow and develop (Jordan et al., 1991; Miller, 1976). When organizations peg employees against one another for promotions, applaud high-achieving individuals who take advantage of their colleagues in the process, and do not punish uncivil or unethical behavior, they cultivate masculinity contest cultures (Berdahl et al., 2018) that deter HQCs. On the other hand, when
organizations reward team or company-wide achievements, recognize employees for their hard efforts, seek out kind and supportive new hires, and encourage interdependence, empathy, and mutual empowerment within their organization, they are supporting relational practices and encouraging HQCs as one of their core tenets.

Organizations are also responsible for promoting a balanced environment and embracing relational practices. One way to create more balance is to implement a hybrid work policy if the work does not require fully on-site labor. Although research is still unfolding about the optimal way to create a hybrid work policy, the exact approach should be tailored to each industry and organization based on their specific productivity and performance needs, aligning with the company values and culture, and involving the employees’ voice (opinions and feedback) in the process (Gratton, 2021). The approach should be intentional, with in-office days optimized for meetings, collaboration, HQCs, and other in-person activities, whereas remote days should offer more individual flexibility, fewer (if any) meetings, and more disruption-free work time.

Another dimension to maintain balance is to ensure that staffing and resources are sufficient for the workload. When employees are burnt out or over-expended, they are likely to withdraw and refrain from engaging in HQCs (Maslach & Jackson, 1981), which can inhibit trust-building, collaboration, and information sharing. Employers often do not recognize the long-term costs of depending on an understaffed or under-resourced workforce to deliver results, but when employees start producing lower quality work, calling in sick, and leaving their jobs (Jackson et al., 1986; Wigert & Agrawal, 2018), the costs can be enormous (Goh et al., 2016) – and also impact employees’ mental and physical health (Jackson & Maslach, 1982; Kahill, 1988; Shirom et al., 2005).
Organizations should also measure burnout to assess whether any of their teams are experiencing burnout (or even preliminary indications of burnout) and understand the cause of their burnout. While many employers and managers presume burnout is solely the outcome of work overload, there are other potential causes of burnout, including lack of control, insufficient rewards, poor social interactions, unfair decision-making and treatment, and a mismatch between personal values and the organization’s values (Leiter & Maslach, 2004). If HR distributes surveys that help pinpoint the root cause of burnout, they can work with managers to take tailored action to alleviate employee burnout and create an environment conducive to creating HQCs.

Managers also play a crucial role in creating an environment for their team members that is conducive to HQCs. They need to act as role models and directly encourage HQCs and relational practices. They can do so by carving out a few minutes to get to know their team members or clients in the beginning of meetings, either in-person or online, and following up later to show that they listened and care. They can join video meetings with their cameras on when appropriate, and encourage their team members to turn their cameras on if they’re comfortable doing so. Rather than keep chit-chat at a superficial level (e.g., talking about sports or the weather), they can disclose personal information, recognize and specifically commend employees’ work efforts, or ask deeper, more personal questions from others (e.g., What are your long-term professional goals? What non-work activities or hobbies are you proud of?). Probing with follow-up questions also demonstrates an authentic level of compassion that will help employees open up and feel cared for. Because virtual meetings tend to remain focused on business, managers should intentionally create space for their employees to connect on a more personal level from time to time (Ferrazzi, 2015). These actions signal that HQCs are important.
for the team’s functioning and that team members should care about one another as people rather than treat each other as work output.

Managers also play a pivotal role in setting the tone for their teams and creating an environment conducive to HQCs by preventing or mitigating burnout. Managers need to manage their employees’ workload and preserve their focus-time. For instance, meetings are a drain and distraction that contribute to work overload when they are unnecessary and consume employees’ work time. A recent study measured the outcome when companies switched to designated meeting-free days and found that employees benefitted in numerous ways, including greater levels of communication, cooperation, engagement, and productivity, as well as lower levels of stress (Laker et al., 2022). Managers may also need to redistribute work if certain employees are overloaded and check in to make sure that their team has all the available resources that they need. Working in-tandem with HR, managers can also stay vigilant about their team’s burnout and leverage burnout measurements to assess whether they need to take immediate action to support their team members.

Finally, employees are key to supporting their colleagues and propagating the daily use of HQCs in their interactions. Employees should engage with their fellow colleagues, clients and customers in ways that foster HQCs: by practicing respectful engagement, disclosing an appropriate amount of personal information, finding commonalities with their colleagues, engaging authentically, and making an intentional effort to reconnect on a personal level (ideally, in person) from time to time. HQCs do not require immense time or effort, just intentional behaviors, curiosity, and a caring nature for the other person. Employees also need to gain awareness of their biases against notoriously difficult colleagues and their potentially uncivil behavior towards them. An expressive-writing paradigm intervention focused on enhancing
emotional self-efficacy is one potential way to decrease workplace incivility (Kirk et al., 2011). Another option is to encourage employees to minimize their biases by using Socratic questioning to ask their colleagues focused, directed, and open-ended questions to elicit thoughtful responses (Clark et al., 2015). This method can help employees better understand the true reasoning or rationale behind their colleagues’ behaviors and decisions rather than blaming their colleagues’ general traits and tendencies. Although employees may be less instrumental in buffering the contextual effects that cause team members to feel burnt out, they can still support those colleagues by sharing resources and offering constructive feedback, instrumental help, and emotional support.

Conclusion

The workplace experienced a drastic shift since the COVID-19 pandemic forced employees en masse to work remotely, reintroduced them back into the office, and reconfigured the way employees interact. With burnout plaguing employees, this research investigated the role of HQCs in this new and evolving era of work. The findings from these mixed methods studies suggest that HQCs impact end-of-day engagement and exhaustion, and there are a host of environmental and contextual factors that can play a role in creating an environment ripe for HQCs. There is also evidence that camera-on video interactions can generate the same levels of HQCs as in-person interactions, though there are a range of factors may indicate when each type of interaction is appropriate. Overall, this research aims to encourage future research and practice to support organizations, managers, and employees to learn more about HQCs and cultivate positive work environments that enable employee wellbeing and flourishing.

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Appendix A
Scales for Study 1

Study 1 Time 1 Measures

**Burnout – Trait (OLBI; Demerouti et al., 2010)**

Please rate the extent to which you disagree or agree with the following statements.

- I always find new and interesting aspects in my work.
- There are days when I feel tired before I arrive at work.
- It happens more and more often that I talk about my work in a negative way.
- After work, I tend to need more time than in the past in order to relax and feel better.
- I can tolerate the pressure of my work very well.
- Lately, I tend to think less at work and do my job almost mechanically.
- I find my work to be a positive challenge.
- During my work, I often feel emotionally drained.
- Over time, one can become disconnected from this type of work.
- After working, I have enough energy for my leisure activities.
- Sometimes I feel sickened by my work tasks.
- After my work, I usually feel worn out and weary.
- This is the only type of work that I can imagine myself doing.
- Usually, I can manage the amount of my work well.
- I feel more and more engaged in my work.
- When I work, I usually feel energized.

**Respectful Engagement (Carmeli et al., 2015)**

Organization members here are always available to hear out and listen to each other.
Organization members here pay the utmost attention to each other’s needs.
Organization members here express genuine interest in each other’s position and the
units they are managing and responsible for.
Organization members here recognize and understand what goes into each other’s
work.
Organization members here emphasize other members’ good sides.
Organization members here express appreciation and respect for each other’s contribution to the organization.
Organization members here appreciate how valuable other members’ time.
Organization members here make requests, not demands from each other.
Organization members here speak to each other in a respectful rather than in a demanding way.

**Trusting (Franzier et al., 2013)**

I usually trust people until they give me a reason not to trust them.
Trusting another person is not difficult for me.
My typical approach is to trust new acquaintances until they prove I should not trust them.
My tendency to trust others is high.
Task Enabling (Clobert et al., 2016)
My coworkers help me get my work done.
My coworkers answer questions I have about my job.
My coworkers are always willing to give me a hand with my work.

Contros/Demos
Extraversion
Number of Direct Reports
Degree of Hybridity
Job tenure
Race/Ethnicity
Education
Gender identity

Study 1 Time 2 Measures

Day-Level Engagement (based on Sonnentag, 2003 adapting scale from Schaufeli et al., 2006)
Yesterday, I was enthusiastic about my job.
Yesterday, I got carried away when I was working.
Yesterday, I felt bursting with energy at my work.
Yesterday at my job, I felt strong and vigorous.
Yesterday, my job inspired me.
When I got up yesterday morning, I felt like going to work.
Yesterday, I felt happy when I was working intensely.
Yesterday, I was proud of the work that I did.
Yesterday, I was immersed in my work.

Day-Level Exhaustion (based on Silvia Simbula, 2010)
Yesterday, I felt emotionally drained by my work.
Yesterday, by the end of the work day, I felt used up.
Yesterday, I felt burned out from my work.

DRM Intro (Based on Major et al., 2018)
We would like to learn which work colleagues, patients, vendors, or clients you interacted with yesterday while working for your primary job, from the time you woke up until you went to bed. Work colleagues can include your supervisor/managers, clients, teammates, subordinates, and other members within or associated with your organization.

An interaction is defined as any encounter (including by phone, text messaging, e-mail, social media, etc.) of a few minutes or longer with another person(s) in which the participants attended to one another and adjusted their behavior in response to one another. Not all days are the same – some days you speak to more people, others you speak to fewer. Here we are only asking you about yesterday and only about interactions that lasted for more than a few minutes.
Because many people find it difficult to remember what exactly they did and experienced, we will do this in two steps:

We'd like you to reconstruct who you interacted with, as if you were writing in your diary. Where were you? What did discuss and experience? Who else was there? How did you feel?

After you have finished reconstructing the interactions you had throughout your day in your diary, we will ask you specific questions about this time. Indications of the end of an interaction might be: ending one discussion and starting another or a change in the people you are interacting with.

For this task, there is room to list up to 30 interactions, although it is not necessary to use all of the spaces.

To begin, please select the day of the week that YESTERDAY was: (lists Mon – Sun)

How many hours did you work for your primary job yesterday?

As a reminder, we're asking you to reconstruct who you interacted with yesterday, starting from the beginning of your workday until the end of your workday. Consider each interaction, or episode, that you engaged in with a work colleague, client, or patient.

Please note that you do not need to include interactions with family members, family, or friends unless they are also your work colleagues, clients, or patients.

An interaction is defined as any encounter (including by phone, text messaging, e-mail, social media, etc.) of a few minutes or longer with another person(s) in which the participants attended to one another and adjusted their behavior in response to one another.

Note that though it is important for you to name each interaction (for example, "Lunch with Sandy", or "Daily team meeting") the notes section is more for your reference for later use, and you should just jot down anything you think might help to jog your memory for that episode.

It is likely that you have had more than 5 interactions during the day. If that is the case, select "Yes, I had additional Interactions" at the end of this page.

FOR EACH INTERACTION:

What is the name of the interaction?
What did you feel? Were you with anyone?
What time of day did it start?
    Morning (before 12pm)
    Afternoon (between 12pm-5pm)
    Evening (after 5pm)
How many minutes did it last?

Now, we would like to learn in more detail about how you felt during those interactions. For each interaction you listed, there are several questions about what happened and how you felt.

On the next pages, you will answer questions about every episode you recorded, beginning with the first interaction starting from the time you started working. To make it easier to keep track, we will carry forward your interaction descriptions so you can see what you wrote for each interaction while you’re answering questions about that particular interaction.

It is very important that we get to hear about all of the interactions you experienced yesterday, so please be sure to answer the questions for each interaction you recorded.

FOR EACH INTERACTION

As a reminder: below is the information you shared for Interaction 1.

*Here it will show the details to remind the participant which interaction is based on:*

Name: 
Notes: 
Time of day interaction started: 
Length of interaction: 

During this interaction, how did you correspond? 
- In person and face-to-face 
- Video conference (such as Zoom, Teams, Google Meet) with their video turned ON 
- Audio (such as phone call, voice note, or Zoom, Teams, Google Meet with the video OFF)

How many other people were part of this interaction?

Which types of people did you interact with? Check all that apply. 
- Direct Manager/Supervisor 
- Work Colleague/Coworker 
- Direct Report or Subordinate 
- Executive/Higher-Level Manager 
- Client, Customer, Vendor, or Patient 
- Other

Positivity Resonance (Major et al., 2018)

For what proportion of time during this episode (from 0 to 100 percent)…

For example, "100" would indicate you had this experience during the entire episode, whereas "50" would indicate that you had this experience half of the time.

...did you experience a mutual sense of warmth and concern toward the other(s)? 
...were you able to attune to and connect with the other(s)’ experiences? 
...did thoughts and feelings flow with ease between you and the other(s)?
...did you feel energized and uplifted by the company of the other(s)?
...were you and the other(s) mutually responsive to one another's needs?
...did you feel a sense of mutual trust with the other(s)?
...did you feel in “in sync” with the other(s)?
Appendix B

Semi-Structured Interview Guide (Modified for In-Person or Office Participants)

<table>
<thead>
<tr>
<th>Participant ID</th>
<th>__________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current role, position, or job title</td>
<td>__________________</td>
</tr>
<tr>
<td>Years worked in current role</td>
<td>__________________</td>
</tr>
<tr>
<td>Years worked in current company</td>
<td>__________________</td>
</tr>
<tr>
<td>Company size</td>
<td>__________________</td>
</tr>
<tr>
<td>% of time working in office</td>
<td>__________________</td>
</tr>
<tr>
<td>Manager</td>
<td>__________________</td>
</tr>
<tr>
<td>Number of direct reports</td>
<td>__________________</td>
</tr>
<tr>
<td>Age</td>
<td>__________________</td>
</tr>
<tr>
<td>Gender</td>
<td>__________________</td>
</tr>
<tr>
<td>Race</td>
<td>__________________</td>
</tr>
</tbody>
</table>

Original Research Questions
1. How do HQCs impact burnout and work engagement?
2. What antecedents of HQCs are relevant?
3. Does media naturalness impact HQCs?

Additional:
- What makes interactions more energizing or depleting? Differences by any dimensions (eg gender, age?)
- How are energizing or depleting interactions different in-person vs. remote?
- How do preexisting relationships impact the quality of an interaction? (e.g., friendships, or bad boss)

Before Recording:
- Introduction (Doctoral candidate conducting research)
- Project purpose: To learn about their work relationships and the interactions they have with work colleagues, clients, vendors, direct reports, managers, etc.
- Remind them it’s confidential, no names or identifying information will be used, and it is completely voluntary so they can stop at any time
- Time constraints? Aiming for 30-60 minutes
- Remind them that they signed consent to record, and that only the audio will be kept from the conversation. Ask if it’s ok to record. If so, click ‘record’ and go!

Work Interactions

I know you sometimes work in the office, while other times you work from home. Can you tell me about your work setup in terms of when/how often you’re at home vs. the office?

For days you’re working in the office:
Can you describe your day in terms of your work-related interactions, or the people you correspond with?

1. Who do you generally interact with?
   *Outside clients, customers, or vendors? Just internal workers? Do you tend to meet new people, or work with the same people you already know?*

2. How many work-related interactions do you have throughout your workday?
   *Work-related interactions can include coworkers, subordinates, managers, vendors, clients, etc. Inquire if they mention meetings (size, frequency, etc.)*

3. What percent of the time do you spend interacting with people?
4. How do you tend to feel at the end of the day?

*Alt:

5. *What do you do throughout the day?*
6. *What’s your work team like? Your boss/manager?*

**For days you’re working remotely or from home:**
Can you describe your day in terms of your work-related interactions, or the people you correspond with?

1. How does it differ from the days you’re in the office?
   a. Who you interact with?
   b. How many work-related interactions you have throughout your workday?
   c. Percent of the time you spend interacting with people?
   d. How you feel at the end of the day?
2. How do you prefer to interact when you’re remote? (phone, video camera on/off, messaging, email)
   a. Does it vary on anything (e.g. the task, time of day, etc.)

**Engaged/Exhausted Interaction Examples**

Think about a specific time you interacted with someone (or a group of people) at work that made you feel **energized or engaged** afterwards. Can you describe that interaction?

1. **Understand context**
   a. *What was happening? What was the situation?*
2. **Tell me about your relationship with that person**
   a. *Already had relationship? Someone new?*
3. **Length/timing**
   a. *How long was your interaction? What time of day did you talk to them?*
4. **What made your interaction so energizing?**
5. **Did you feel more or less energized at certain parts of your interaction?**
6. **How would you describe how you felt afterwards? What did you do?**

CONSIDER THEIR RESPONSE (in-person vs. remote) and probe the other option – do you think it would be similar or different if you were in person/remote? How so?
Think about a time you interacted with someone (or a group of people) at work that made you feel exhausted afterwards. Can you describe that interaction?

1. Understand context
   a. What was happening? What was the situation?
2. Tell me about your relationship with that person
   a. Already had relationship? Someone new?
3. Length/timing
   a. How long was your interaction? What time of day did you talk to them?
4. What made your interaction so energizing?
5. Did you feel more or less energized at certain parts of your interaction?
6. How would you describe how you felt afterwards? What did you do?

CONSIDER THEIR RESPONSE (in-person vs. remote) and probe the other option – do you think it would be similar or different if you were in person/remote? How so?

Engaged/Exhausted Workday
Think about a workday when you felt depleted and exhausted as you wrapped up your workday. What was that day like? If possible, please think of a different one than your previous example.

Think about a workday when you felt energized as you wrapped up your workday. What was that day like? If possible, please think of a different one than your previous example.

PROBE INTO REMOTE VS IN-PERSON
Consider a workday where most of your interactions were conducted remotely - you were either working remotely or you were interacting with others who were working remotely.

1. How did you feel at the end of the day?
2. Was that different than a day when you had a similar number of in-person interactions?

General
Is there anything I forgot to ask, or anything you think I should have asked that I didn't? Is there any other information you want to share about your work interactions?

Do you have questions for me?

Do you have any recommendations of someone who might be interested in participating?

End by thanking them and asking if they have any questions. Let them know that they can expect $10 gift card emailed to them that they can give to the charity of their choice.