The Astute Communicator: Strategic Choices and Consequences of Goal-Oriented Workplace Communication

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The Astute Communicator:

Strategic Choices and Consequences of Goal-Oriented Workplace Communication

A dissertation presented

by

Andrew Brodsky

to

The Committee for the Ph.D. in Business Studies

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The astute communicator:

Strategic choices and consequences of goal-oriented workplace communication

Abstract

Whether the topic is persuading, selling, or negotiating, one of the key questions that employees, managers, and scholars have long asked is “What message will best accomplish my goal?” Yet, existing theory on goal-oriented workplace communication often falls short of being applicable to contemporary organizations where the need to constantly innovate is fundamental and communication is becoming more virtual. Across three chapters, I study both decisions and outcomes regarding goal-oriented communication by utilizing experimental simulations, surveys, scenario studies, and experience sampling techniques.

In Chapter 1, I investigate the optimal methods for engaging in voice and develop a theoretical model of voice responsivity. I find that utilizing slight to moderate levels of challenge when engaging in voice maximizes the likelihood that a voicer’s idea will be endorsed and minimizes punishment to the voicer. In Chapter 2, I study the way workers, when engaging in emotional labor, choose to utilize differing communication media and the consequences of those choices. I discover that workers are more likely to opt for less rich communication media (e.g., email) when needing to display inauthentic emotion, but that medium levels of communication media richness (e.g., telephone) are optimal for interactional outcomes. Lastly, in Chapter 3, I examine how the time spent crafting emails alters their outcomes. In doing so, I show that workers often overcraft emails, such that additional time is devoted to engaging in impression management at a cost to both message effectiveness and message-sender well-being. I
consistently find that when it comes to goal-oriented work communication, putting in your all (more time, more emotional cues, and more communication intensity) can backfire. In doing so, I develop new theory on workplace communication and provide actionable recommendations for workers approaching critical interactions.
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INTRODUCTION

Whether the topic is persuading, selling, or negotiating, one of the key questions that employees, managers, and scholars have long asked is “What message will best accomplish my goal?” (Cialdini, 1993; Kelley et al., 1970; Malhotra & Bazerman, 2008). The rewards for effective workplace communication are substantial; subordinates who effectively persuade managers that their new ideas are valuable can be rewarded with bonuses and promotions (Bashshur & Oc, 2015; Burris, 2012; Morrison, 2011); sales agents who effectively manage their emotions in communications are more effective sellers and earn greater commissions (Grandey & Gabriel, 2015; Hochschild, 1983; Morris & Feldman, 1996); and employees who are skilled at impression management are more likely to perform at a high level across a multitude of dimensions (Bolino, Long, & Turnley, 2015; Munyon, Summers, Thompson, & Ferris, 2015). So too are organizations benefitted when their employees are highly competent communicators; effective internal communication is requisite for sharing ideas upward to increase innovation (Bashshur & Oc, 2015; Kaufman, 2015; Morrison, 2011), and effective external communication directed toward customers is a key driver of profits (Grandey & Gabriel, 2015; Hochschild, 1983; Morris & Feldman, 1996).

Although the rewards for effective workplace communication are high, both for organizations and the communicators themselves, employees are often punished for striving to achieve these positive outcomes when they unknowingly utilize inferior communication strategies. A host of these negative consequences have been shown across the research domains of voice, emotional labor, and impression management; subordinates who raise innovative ideas are often evaluated more poorly by their superiors (Detert & Burris, 2007; Fast, Burris, & Bartel, 2014); customer service representatives who attempt to display positive emotions to customers
are frequently rated lower by customers for these attempts (Grandey, Fisk, Mattila, Jansen, & Sideman, 2005; Groth, Hennig-Thurau, & Walsh, 2009); and individuals who wish to display their competence through highlighting their own accomplishments or by complimenting others often achieve the opposite effect and are evaluated as being less competent (Berman, Levine, Barasch, & Small, 2015; Bolino et al., 2015; Eastman, 1994). Highlighting both the importance of this topic and the need for future research in the area, the Academy of Management chose the theme for the 2014 meeting to be “The Power of Words.”

Existing research in these domains has provided great insight into these workplace communication processes, but the applicability of recommendations stemming from past studies has been narrowed by the methods utilized and types of data collected. Following Edmondson and McManus’s (2007) recommendations regarding methodological fit for nascent and intermediate state theories, existing management studies in these domains have primarily utilized qualitative methods (Hochschild, 1983; Milliken, Morrison, & Hewlin, 2003) and surveys (Pugh, Groth, & Hennig-Thurau, 2011; Van Dyne & LePine, 1998). Particularly given the maturing nature of this field, aside from a few exceptions (Burris, 2012; Oc, Bashshur, & Moore, 2014), experimental methods are noticeably absent from areas of workplace communication such as voice and emotional labor. This absence is particularly problematic for the study of workplace communication, as the interactions of interest are fleeting, and interviews and surveys rely on respondent memory rather than on capturing communication decisions and outcomes in real time. Further, given that surveys are better equipped to capture broader communication trends rather than specific interactions, contextual effects in interactions are often lost. Consequently, one of the most prominent contextual variables for contemporary organizations has been absent
from research on the topics of the medium of communication – whether the interactions occur over face-to-face, telephone, or email.

The chapters in this dissertation seek to broaden and test theory on workplace communication by studying work interactions in real time. To do so, I utilize a combination of experimental simulations, scenario studies, and experience sampling methodologies. In each chapter, I take a two-pronged approach, examining both the communication decisions that employees make and the outcomes of those decisions. I explore the outcomes of communication in the realms of voice, emotional labor, and impression management, as a function of communication medium and language choices. In doing so, I not only develop new theory on workplace communication, but also provide highly actionable recommendations for both employees and managers.

These chapters are unified in their focus on both goal-oriented communication and the pattern of hypothesized findings. When it comes to workplace interactions, most communication is likely to involve some degree of goal orientation, whether those goals are implicit or explicit (Kehr, 2004; Schultheiss & Brunstein, 1999). For instance, when an employee speaks up to a manager regarding an observed injustice (Chapter 1), that employee likely has the explicit goal of bringing about change (Folger, 1977; Morrison, 2011). Alternatively, when employees engage in emotional labor (Chapter 2) by altering their emotions to match organizational display rules with the goal of not being fired, they may often be doing so implicitly or automatically without consciously considering this goal (Grandey & Gabriel, 2015; Morris & Feldman, 1996). It is also plausible that workplace communication involves some components of both explicit and implicit goals. In terms of engaging in impression management in email (Chapter 3), it is plausible that proofreading a message may be more implicit as it can become habitual. On the other hand,
carefully crafting a message to avoid misinterpretation may be more explicit. Irrespective of the communication domain, at the lease, nearly all workplace interactions involve the goal of not severely violating norms to the point that the communicator is fired (e.g., not directly insulting the CEO and avoiding the use of racial slurs).

By definition, a key component of goals is that individuals strive to reach them, and consequently feel satisfied and happy once they are reached (Lee, Sheldon, & Turban, 2003; Sheldon & Elliot, 1999). However, one potential negative consequence of goals is that they often push workers to go to extremes to meet them (Ordóñez, Schweitzer, Galinsky, & Bazerman, 2009). As it relates to workplace communication, a possible example of this behavior is that workers could spend substantial amounts of time crafting emails to ensure that their goals are met. The question then arises as to how “putting your all” into work communication alters its outcomes.

Across the three chapters, I hypothesize that when it comes to workplace communication, sometimes, “more is less.” I root this overarching hypothesized pattern of results in a classic observation of organizational phenomena: that it’s possible to have too much of a good thing, and that many organizational phenomena involve inverse curvilinear effects (Grant & Schwartz, 2011; Pierce & Aguinis, 2013). The underlying logic for the recurrence of inverse-U relationships in management literature is most simply stated by Coombs and Avrunin (1977): “Good things satiate and bad things escalate” (p. 224). A common example of this satiation is the marginally decreasing beneficial effect of money on happiness (Diener, Horwitz, & Emmons, 1985). An example of escalation is a dripping faucet; while it can be easily ignored at first, with time, it becomes increasingly annoying (Coombs & Avrunin, 1977). As this type of satiation and escalation relates to communication, I similarly argue that the benefits of putting more into
communication (whether that be communication intensity, social cue information, or time spent engaging in impression management) has marginally decreasing (satiating) benefits, such that beyond a certain point, workers gain nothing through greater levels of exertion toward reaching their goal. However, that exertion (e.g., high communication intensity, high levels of social cue information, and large amounts of time spend engaging in impression management) can backfire, thereby resulting in escalating worsening outcomes for the communicator. Together, these points form my argument that when it comes to goal-oriented communication, sometimes less is more.

OVERVIEW OF CHAPTERS

Overview of Chapter 1

In Chapter 1, with coauthors with Joshua Margolis and Joel Brockner, I develop and test a theoretical model of voice responsivity, the psychological processes that drive how managers react to varying degrees of challenge from a subordinate. In a series of experimental simulations, with both manager and diverse online study pool samples, we utilize participant-generated instances of voice to examine the most effective manner of challenging a superior’s actions. We find that there are optimal levels of challenge for engaging in voice; utilizing slight to moderate levels of challenge results in managers making more cognitive or System 2-driven decisions (Kahneman, 2011) based on the information relayed via voice, whereas utilizing high levels of challenge results in managers making more emotional or System 1-driven decisions. The former category of decisions not only maximizes the likelihood that a manager will accept the issue with which s/he was challenged, but also reduces the probability that the challenger will be punished for disagreeing with a superior’s actions.
Overview of Chapter 2

Whereas Chapter 1 focuses on decisions regarding the language of goal-oriented communication, Chapter 2 centers on the choice of communication medium. In this chapter, I test how workers decide on communication medium when engaging in emotional labor as well as the consequences of those decisions. I begin the chapter with a paired teacher-parent survey from 11 international schools in Vietnam to explore the phenomenon without researcher intervention. Then, I utilize scenario studies of employees from a Big 4 accounting firm in Australia and an online subject pool to experimentally replicate and extend the findings from the survey. Across these studies, I discover that employees are more inclined to choose less rich modes of communication, such as email, when engaging in surface acting (i.e., displaying inauthentic emotions). They make this decision because email is seen as less effortful for this process. However, I find that this decision is suboptimal from an interaction perspective because interaction partners rate surface actors who utilize the telephone as being most authentic, more so than actors using either the richer medium of face-to-face or the less rich medium of email. I show that telephone is a “sweet spot” of medium richness when needing to display inauthentic emotions to achieve a goal; telephone balances masking the inauthenticity through allowing less emotional leakage than the richer mode of face-to-face communication, with the appearance of being more effortful than less rich modes of communication like email.

Overview of Chapter 3

Chapter 3 investigates another workplace communication decision, but one that is less apparent to communication recipients: the amount of time or effort that goes into goal-oriented communication. Following Bolino and colleagues’ (2015) call for research on the intrapersonal effects of impression management, this chapter examines the affective and productivity costs of
impression management in email. I chose to investigate the context of email, both because it is a notably underexplored context in the impression management literature and because the ability to engage in impression management ad nauseam, due to email’s editable nature, allows for the potential magnification of the consequences of impression management.

In an experience sampling study, which captured the email crafting process in real time, I find that time spent crafting email messages negatively predicts message effectiveness and positively predicted email-sender anxiety, frustration, and depletion. In other words, workers tend to overcraft their email messages at a cost to their message outcomes, productivity, and emotional well-being. In this context, the underlying drive to achieve goals through workplace communication undermines its efficacy.

Summary

Together, these chapters offer practical, empirical, and theoretical contributions to the understanding and improvement of communication in business contexts. One common theme that stretches across the chapters is that, sometimes, less is more when it comes to goal-oriented communication. In the first chapter, I find that using lower degrees of challenge when engaging in voice improves outcomes. In the second chapter, I find that avoiding the richest communication medium (face-to-face) can improve outcomes of surface acting. Lastly, in the third chapter, I find that spending less time crafting emails can improve both message outcomes and senders’ well-being. By examining interactions utilizing a variety of methods, these chapters expand theories of voice, emotional labor, impression management, and virtual communication. In doing so, I provide multiple strategies for managers and employees to help communicators achieve their goals while maximizing their well-being.
Chapter 1: Speaking Up Without Going Down: Toward a Theory of Responsivity to Challenging Voice

Andrew Brodsky, Joshua Margolis, and Joel Brockner

Abstract

Employee voice is a topic of central interest to organizational scholars and practitioners due to its potential to increase innovation, remedy injustices, and prevent wrongdoing. Yet, we know little about what employees themselves can do to navigate the tension between expressing voice and risking penalty, on one hand, and staying silent and allowing objectionable behavior to persist, on the other. The goal of this chapter is to delineate how employees can optimally engage in voice, such that they maximize the likelihood that their voice will be acted upon, while minimizing the likelihood that they will be punished for speaking up. We conducted a series of experiments to determine how people in a position of power react to varying levels of challenging voice. We find that the benefits and costs of voice are non-linear, such that most of the benefits are obtained at low to moderate levels of challenge and then plateau, while most of the costs are incurred at high levels of challenge. Based on these findings, we develop a model of responsivity to voice, illuminating the factors that influence how people respond to challenging voice in ways that are optimal to those expressing it.
**Introduction**

Recurring organizational scandals have given renewed importance to the questions of when and why employees speak up when they witness objectionable conduct. Advances in addressing these questions have provided organizations with tools to encourage employees to engage in challenging voice, which is defined as a discretionary expression intended to bring about improvement or change (Morrison, 2011). Multiple reviews of the literature have identified many determinants and outcomes of challenging voice (Bashshur & Oc, 2015; Chamberlin, Newton, & Lepine, 2016; Kaufman, 2015; Morrison, 2011). A clear picture has emerged of the factors that influence whether employees speak up, and the benefits and costs of their doing so. However, a black box still exists between these antecedents and outcomes—a gap in understanding that Morrison (2011, p. 397) describes as “one of the most pressing needs in the voice area”: the impact of *how* employees speak up.

In deciding whether to speak up, employees are faced with a dilemma: is it better to engage in voice to help their organizations or to stay silent to avoid a myriad of potential negative interpersonal and job-related consequences? When employees engage in challenging voice, there can be substantial positive effects for teams and organizations, including improved organizational decision making, error detection, and learning (Detert, Burris, Harrison, & Martin, 2013; Milliken et al., 2003; Morrison, 2011). However, employees often avoid speaking up due to their concern that doing so may not result in positive change, and may even have harmful career consequences, such as negative performance evaluations, demotions, or firing (Detert & Edmondson, 2011). The latter belief is not entirely unfounded. Studies have shown that there are often negative consequences for employees who engage in challenging voice, such as lower
performance evaluations and an increased likelihood of involuntary turnover (Burris, 2012; Burris, Detert, & Romney, 2013).

The potential costs and benefits of exercising challenging voice have been illuminated in prior research, but those costs and benefits are by no means guaranteed. The intervening process between the language of specific instances of challenging voice and reactions to it has gone largely unexamined, yet it is likely to be a driving force of the actual costs and benefits of speaking up. In order for the issues voiced by employees to be remedied or implemented in an organization, the ideas need to be heard and accepted by those with the power to do so. In this process, authorities decide whether to alter their behavior in regard to the topic of concern (referred to as the voiced concern, going forward). Examples of concerns raised through challenging voice include remedying an injustice, implementing a new idea, or altering a decision. In addition to responding to the voiced concern, superiors make an assessment of the person engaging in voice (herein referred to as the voicer). To date, research has examined a variety of factors that affect judgments of the voiced concern and of the voicer, including culture (Edmondson, 1999), leadership style (Detert & Burris, 2007), and leader personality (Walumbwa & Schaubroeck, 2009).

Our research leverages decision-making theory from the perspective of the voice recipient to extend previous research in a number of respects. We explore whether, through altering the language of how they speak up, it is possible for employees to a) increase the likelihood that their voice is acted upon without b) increasing the likelihood of being punished for speaking up. Voiced challenges, we show, affect voice recipients’ differently with respect to these two categories of reactions. By examining the underlying processes of how voice recipients react to challenge, we build a model of what we refer to as responsivity to voice. In developing
this model, we hope to address the theoretically and practically important questions of how voicers may best go about positively affecting organizationally-relevant outcomes (bringing about change to the voiced concern) without adversely affecting their personally-relevant outcomes (avoiding job and relational costs associated with contradicting a superior).

For the purposes of this chapter, we focus on voice intended to remedy injustices, for several reasons. First, experientially, voice intended to remedy injustice is difficult to enact and difficult to receive (Monin, Sawyer, & Marquez, 2008; Sonenshein, 2006). Hence, our analysis may provide guidance that can help both the voicer and the person on the receiving end. Second, perceptions of justice influence many important work attitudes and behaviors, including job satisfaction, work motivation, and organizational citizenship behaviors (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Therefore, to the extent that voice actually brings about change in the level of justice with which people are treated, it is likely to affect their work attitudes and behaviors.

We conducted a series of experiments examining how supervisors respond to voice that challenges an injustice they were perceived to have committed. All participants were in the role of a supervisor committing an injustice, who subsequently received voice from a subordinate that varied in its degree of challenge. To minimize the influence of straightforward self-interested motivations, we examined instances in which individuals speak up on behalf of others. We gauged responsivity to challenging voice by measuring: (a) supervisors’ behavioral and attitudinal change in the direction of the voiced concern, and (b) supervisors’ evaluations of, and behavior toward, the voicer. In addition, in Study 2, we examined the factors that mediate the relationship(s) between challenging voice and the above-referenced dependent variables. In
short, the present studies evaluate how and why voice can be crafted to maximize its effectiveness in changing authorities’ (mis)behavior while minimizing costs to the voicer.

TOWARD A MODEL OF VOICE RESPONSIVITY

Voice components

By definition, what differentiates voice from other types of upward communication is that it involves challenging the status quo to a superior who has either created or sustained that status quo (Burris, 2012). To understand how managers react when they are challenged by subordinates, it is important to first understand the dimensions in which instances of voice may differ from one another. To date, this has been primarily investigated in terms of general voice tendencies (as opposed to specific instances of voice) that fall into distinct categories. These categories have been measured using surveys that match manager and direct report, in which managers evaluate whether and how subordinates generally engage in voice (Liang, Farh, & Farh, 2012; Maynes & Podsakoff, 2014). For instance, managers might be asked in a survey about the degree to which a subordinate “proactively develops and make suggestions for issues that may influence the unit” (Liang et al., 2012, p. 76). Although such measures are very useful for capturing the impact of typical styles of expressing voice, they are still a level above examining the language and impact of specific instances of voice. For instance, one recommendation emerging from the literature is that voicers are benefitted by raising ideas as opposed to issues/problems over the longer term (Liang et al., 2012); however, for an employee who wants to raise an idea in a specific situation, there is limited advice on how to optimally do so. To develop our model of voice responsivity, we begin by reviewing the existing literature on these categories of voice behavior, and then leverage these existing categorizations to
conceptualize the dimensions of voice in a manner better suited for examining specific instances of voice.

Two primary categorizations of challenging voice have emerged in management literature, both based on similar underlying theory (Chamberlin et al., 2016). One is promotive versus prohibitive voice, in which prohibitive voice involves challenging the status quo by raising issues or complaints, and promotive voice involves challenging the status quo by raising new ideas (Liang et al., 2012). Liang and colleagues found that promotive voice improves voice outcomes (both for the voicer and organization), while prohibitive voice worsens voice outcomes. A second, related differentiator is whether the voice is constructive versus destructive (Maynes & Podsakoff, 2014). Constructive voice is “the voluntary expression of ideas, information, or opinions focused on effecting organizationally functional change to the work context,” and destructive voice is “the voluntary expression of hurtful, critical, or debasing opinions regarding work policies, practices, procedures, etc.” (Maynes & Podsakoff, 2014, p. 91). Whereas the dimensions proposed by Liang and colleagues (2012) cleanly separate the type of information being relayed (a problem or solution), Maynes and Podsakoff (2014) combined both the underlying motives/intentions for voice (constructive voice is intended to bring about effective change, while destructive voice is intended to be hurtful) and the information being relayed (constructive voice can involve raising new ideas, while destructive voice is solely critical of work policies without solutions). Maynes and Podsakoff (2014) found that constructive voice improves outcomes for the voicer, while destructive voice harms outcomes for the voicer.

As noted earlier, although these categorizations of voice are beneficial for characterizing and distinguishing typical tendencies in how people express voice, they may be less well-suited
to examining the impact of specific instances of voice. Specific instances of voice are often likely to combine elements of these existing voice categories and hence are unlikely to fall neatly into a single category. For instance, when raising an idea, employees often note the problem that their idea is solving, thereby incorporating both promotive and prohibitive voice. Similarly, an issue could be raised with the goal of improving the organization but in a fairly destructive manner, simultaneously reflecting constructive and destructive voice. Alternatively, if an employee were to raise an issue in a manner that was neither particularly constructive nor destructive, it would fail to be captured by the existing scales because it would score low on both dimensions; even though this is clearly voice, it may be overlooked due to not being rated highly on either scale. As an example of a specific instance of voice where these categorizations would not fit well is the statement “My colleague Jane is being unfairly paid, and should be paid more.” This instance of voice is both prohibitive and promotive and has both destructive implications (claims of unfairness) and constructive implications (an alternative is proposed).

Although these prior theoretical categories may be useful for predicting the impact of a central tendency across multiple instances of voice due to averaging across a large number of instances of voice, their predictive power may be less useful for specific instances of voice. For example, Liang and colleagues (2012) showed that, over the course of a relationship, prohibitive voice on average tends to have worse outcomes for the voicer. Yet, it is not hard to imagine many instances in which offering a suggestion (promotive voice) could generate worse outcomes than raising a concern (prohibitive voice). For example, if an employee were to point out an issue with a limited degree of challenge (e.g., “Hey boss, would you mind checking this over; I think I might have found an issue.”), it may go over much better than raising an idea with a high degree of challenge (e.g., “Hey boss, I have this new idea that you have to implement or the company
will fail.”). It is also not hard to imagine that constructive voice may be more effective when accompanied by some degree of criticism (destructive voice), though the question remains what amount of each is just right.

To address these issues, we depart from existing research on voice by disentangling what is being said (herein referred to as *informational content*) from how it is being said (herein referred to as *challenge*). Relatedly, we investigate the degree of challenge as a continuum rather than comparing informationally differing categories of challenging voice to one another. Taking this approach allows for a more straightforward analysis of voice that may not neatly fall into a single category (e.g., promotive or prohibitive). We chose the dimension of challenge to examine how instances of voice differ from one another, both because challenge lies at the heart of the definition of voice and because it is central to prior categorizations of voice. Voice recipients are likely to feel more challenged when complaints are raised against the status quo (prohibitive or destructive voice) than when new ideas are raised without directly criticizing the status quo (promotive or constructive voice). Although the effects of challenging (as opposed to supporting) a superior have been previously outlined (Burris, 2012), there is a lack of theory and empirical evidence on how varying degrees of challenge influence relevant outcomes, that is, those pertaining to the voiced concern as well as to the voicer.

We define informational content as facts, opinions, or knowledge directly relevant to the voiced concern. The content in voice may be novel, or it may draw voice recipients’ attention to, or increase the salience of, something already known. For instance, if an employee wants to point out an error, the error itself is the informational content. As it relates to promotive and prohibitive voice, these two categories of voice would have two different types of information: a suggested idea in the case of promotive voice and an identified problem in the case of prohibitive
voice. For our purposes, we assume that the would-be voicer already has information they wish to relay (whether that be a problem or idea) and they need to determine how to raise that idea.

How ideas are raised brings us to challenge, which we define as the degree of force with which difference from status quo is conveyed (Weingart, Behfar, Bendersky, Todorova, & Jehn, 2015). We view challenge as a broad construct that is multiply determined. For instance, powerless communication, such as hedges or statements framed as questions, has been shown to decrease challenge (Erickson, Lind, Johnson, & O'Barr, 1978; Fragale, 2006; Fragale, Sumanth, Tiedens, & Northcraft, 2012), whereas threats, incivility, and anger can increase felt challenge (Andersson & Pearson, 1999; Schilpzand, De Pater, & Erez, 2014; Sinaceur, Van Kleef, Neale, Adam, & Haag, 2011). Our approach to challenge as a broad construct also builds on the two sets of voice categories discussed above, but rather than assuming certain types of information (e.g., suggestions or criticism) are consistently worse or better than the other, we separate what is conveyed from how it is actually conveyed.

Whereas prior voice researchers have primarily examined the impact of challenge as a categorical variable (high or low; present or absent (Burris, 2012; MacKenzie, Podsakoff, & Podsakoff, 2011), we believe that the underlying psychological mechanisms that influence responsivity to voice are activated at levels of challenge that differ from one another. Consequently, the outcomes of voice may fundamentally diverge, not only with the presence or frequency of challenge but also with its intensity. Hence, we examine challenge as a continuous variable and, in particular, the point at which challenge begins to become counterproductive.

We note that although informational content and challenge are two separate components of voice, they are often related. For instance, even though promotive and prohibitive voice can each vary in the degree of challenge, the nature of the content of prohibitive voice (which
focuses on a criticism of a current practice versus providing a suggestion for improvement) is, on average, likely to result in higher challenge. Even in cases in which informational content and challenge serve the function played primarily by the other, we will argue that they contribute differently to the responsivity that voice recipients show toward the voiced concern and the voicer. This difference lies at the heart of our conceptualization.

To delineate these responsivity processes to specific instances of voice, we graphically illustrate our model in Figure 1, and elaborate on these paths in the following sections.

Figure 1

Responsivity Processes

Our model is based on voice recipients’ decision making in response to voice, so we root our model in the two primary categories of decision systems that have continuously emerged across the domains of psychology and decision making. The first one is a slower decision-making process, which primarily involves rationally deliberating based on available information, a process referred to by Kahneman (2011) as System 2 decision processes. The other is a quicker
reactive process which often involves emotion and biases; this process is referred to as “hot” decision making (Loewenstein, 2005) or System 1 processes (Kahneman, 2011). We similarly use this decision-making framework in our model by examining informationally-based (System 2) and reactive (System 1) decision processes.

**Informational processes: Information about the victim.** Given two broad categories of motivation – prosocial and self-oriented (Grant, 2007; Hackman & Oldham, 1976) – voice recipients are likely to evaluate expressions of voice in two ways: (a) what will maximize the outcomes of others (e.g., the organization or a victim of an injustice), and (b) what will maximize their own outcomes. Accordingly, voice recipients respond to the information available in voice interactions based on these motivations.

We begin by addressing the factors that may affect recipients’ prosocial motivations (what will maximize the benefit of others). By definition, voice involves directing a superior’s attention toward some kind of issue or improvement (Van Dyne & LePine, 1998). This voice may introduce new information or draw greater attention to already available, but potentially overlooked, information. For instance, a new manager could be persuaded to alter a decision (e.g., paying an employee more fairly) by a subordinate who provides the missing information. In this example, when the subordinate says, “I think John’s longevity bonus may be too low due to the system listing an incorrect start date,” the voicer may provide new information regarding the decision or task itself. We refer to informing the voice recipient of new information as **information novelty.** Voice can also draw superiors’ attention to information that is not new to the superior but would otherwise be missed. Because people overweight the probability and importance of outcomes based on what is salient (Tversky & Kahneman, 1973), drawing
attention to an issue may increase the information’s effect on the voice recipient. We refer to
drawing the voice recipient’s attention to information already available as *information salience*.

A commonly explored example of this process in recent studies of prosocial motivation
entails calling attention to the impact of an employee’s actions. Studies of call centers (Grant et
al., 2007), radiologists (Tridandapani, Ramamurthy, Galgano, & Provenzale, 2013), charities
(Small & Loewenstein, 2003), and hospitals (Grant & Hofmann, 2011a) have shown that even
minimally drawing attention to the people who might be impacted by an employee’s behavior
(e.g., through use of signs or pictures), without necessarily providing any new information
regarding those beneficiaries, can alter the employees’ behavior in ways favorable to the
beneficiaries.

Calling attention to the impact of a voice recipient’s action involves what is said, its
content, rather than how it is said. Information is conveyed about the person affected by the
voice recipient’s conduct. Accordingly our model includes an arrow from “Informational
Content” of voice to “Information about the Victim,” eliciting either heightened attention to the
information or novel learning from it. As an ensuing outcome, the benefits of this type of
information will be directed toward the victim, as indicated in our model.

*Informational processes: Information about the voicer.* Moving beyond voice
recipients’ prosocial motivations, it is necessary to consider their self-oriented motivations as
well. In addition to shaping voice recipients’ understanding of the voice concern and its impact,
voice can convey information to the superior about the voicer. For example, a superior may not
realize that others are observing or evaluating her behavior, and there may be costs to the
superior (e.g., being reported to human resources or a skip-level manager) for not complying
with observers’ expectations. By speaking up, a subordinate can signal that others are examining
the decision, increasing the likelihood that the superior’s behavior may shift to conform to her
audience’s (the subordinate/voicer’s) expectations (Asch, 1955; Cottrell, Wack, Sekerak, &
Rittle, 1968; Lerner & Tetlock, 1999). In other words, voice can create a sense of recipient
accountability to the voicer (Hochwarter, Kacmar, & Ferris, 2003; Lerner & Tetlock, 1999). To
indicate this relationship, our model includes an arrow from the “Informational Content” of voice
to information about the voicer (accountability), which then can improve the “Victim
Outcomes.” Accordingly, we expect managers to feel significantly more accountable when a
dissenting viewpoint (informational content) is raised, irrespective of how the message is
conveyed (the degree of challenge).

We also predict a secondary, albeit smaller, benefit emanating from accountability,
through the degree of challenge, which can provide information to the recipient regarding the
strength of another’s opinion. Put simply, the informational content of voice alerts the voice
recipient that she has an audience with differing views, whereas the challenge of voice indicates
the strength of the audience’s views. We note this secondary relationship in our model with the
arrow from “Challenge” to “Information about the Voicer.”

**Reactive Processes.** Up to this point, we have focused on more rational decision
processes (System 2). However, clearly, not all reactions to voice are rational, as employees are
often punished for raising valid ideas (Detert & Edmondson, 2011; Kish-Gephart, Detert,
Treviño, & Edmondson, 2009). This behavior is due to managers’ having emotional reactions to
voice in which their egos may feel threatened (Fast et al., 2014). Accordingly, how voice is
relayed may enhance or diminish these reactions.

Research on communication by the powerless indicates that low levels of challenge,
characterized by hedges, questions, and other types of deference, can improve evaluations of a
communicator (Brooks, Gino, & Schweitzer, 2015; Fragale, 2006; Liljenquist, 2010). Challenges that signal deference provide information to the communication recipients that reinforces their own self-efficacy and positive sense of self as the authority, in turn leading to positive assessments of the communicator (Brooks et al., 2015; Liljenquist, 2010).

Whereas relatively low levels of challenge may improve evaluations of the voicer, highly challenging voice can generate negative evaluations of the voicer. Employees who strongly disagree with the status quo are often perceived as disloyal and consequently evaluated more poorly (Burris, 2012; Detert & Edmondson, 2011; Morrison, 2011). Furthermore, whereas lower levels of challenge may not be experienced as a personal affront, higher levels of challenge — because they often entail personal, emotional, and critical elements experienced as offensive — can elicit defensiveness on the part of the perpetrator who may feel “called out” for his/her behavior (Burris, 2012; Sinaceur et al., 2011; Weingart et al., 2015). Research has also revealed that intense threats, which are likely to include anger, tend to not only be ineffective but also to result in increased sanctions to the threat-maker as compared to more factually stated threats (Nelissen & Zeelenberg, 2009; Sinaceur et al., 2011). Even if very challenging messages do not include explicit threats or anger, disagreeing with someone in a very strong manner may be experienced as interpersonally unfair (Colquitt et al., 2001; Skarlicki & Folger, 1997), or as an act of incivility (Andersson & Pearson, 1999; Schilpzand et al., 2014), which is likely to offend recipients. Both offense and threat have been frequently tied to System 1 thinking in that they result in more automatic and emotional reactions, rather than slower and more information-driven decision making (Frijda, 1988; Lambert et al., 2010; Pessoa, 2009).

We therefore predict that at lower levels of challenge, those on the receiving end of the challenge will assess the voicer positively or, at worst, neutrally. As challenge increases,
however, voice may be perceived as a personal affront, providing negative information about the
voicer in the eyes of the recipient, and motivating the voice recipient to impose costs on the
voicer. As a result, the voicer may be judged negatively and may also be penalized monetarily.
We illustrate this relationship in our model through the inclusion of the arrow from “Challenge”
to the “Reactive” process, which then leads to “Voicer Outcomes.”

**Optimal Responsivity**

When the paths in our model are considered in unison, it suggests that there may be
optimal levels of challenging voice. We predict that the majority of the benefits for victims are
derived from the informational content of voice (information about the victim and information
about the voicer), which can be conveyed with low to moderate levels of challenge. We indicate
this relationship for victim outcomes in Figure 2 in which outcomes to the victim improve
considerably as voicers move from not being challenging to being moderately challenging.
Alternatively, the costs to the voicer come largely from high levels of challenge, when voice
recipients’ “hotter” or more reactive decision systems (i.e., System 1) are activated. In such
cases, voice recipients will think less rationally about the information provided (System 2) and,
in turn, about how to help a victim or the organization, but rather, will react based on their
emotions. Consequently, we propose that voicers would be best served by utilizing low to
moderate levels of challenge to maximize benefits to the victim, while minimizing costs to
themselves. This optimal level of challenging voice is reflected in the circle in Figure 2.
STUDY 1: THE CONSEQUENCES OF CHALLENGING VOICE

To examine how challenge level alters the responsivity of voice recipients to the voiced concern and to the voicer, we created a two-round work team simulation based on the dictator game paradigm (Hoffman, McCabe, & Smith, 1996; Kahneman, Knetsch, & Thaler, 1991). Participants (playing the role of a team “CEO”) unfairly paid a powerless, yet highly performing teammate (a team “Employee”) in the first round. Following the underpayment, participants received voice from a third team member (the “Vice President”). We varied the level of challenge in the messages to evaluate how participants in this study reacted when they were on the receiving end of voice. After receiving voice, participants’ responsivity was measured in multiple ways: through behavior and attitudes toward both the voiced concern and toward the voicer. Responsivity to the voiced concern was measured behaviorally through the level of remediation of the injustice that was committed (paying the Employee more in the next round of the task), and attitudes were measured through ratings of the persuasiveness of the message itself. Responsivity to the voicer was measured behaviorally through rewards or punishments.
given to the voicer (the Vice President), whereas attitudes were assessed by how much participants wanted to have future interaction with the voicer.

Team simulations have emerged as a fruitful way to examine voice experimentally. For instance, Burris (2012) utilized a hidden profile team task and Oc and colleagues (2014) have used a multi-round dictator game to explore the consequences of supportive versus challenging voice. This methodology has gained traction among voice researchers, enabling them to examine the consequences of the specific language of voice and to experimentally study people’s behavior in unethical situations, without risk of participants losing their jobs for behaving improperly.

Given that team simulations raise potential problems with realism and believability, we took multiple steps to allay those concerns. First, we utilized a population of participants, Amazon Mechanical Turk workers, for whom the task of interest (completing economic games with other people) is a primary part of their everyday work (Berkowitz & Donnerstein, 1982; Buhrmester, Kwang, & Gosling, 2011; Goodman, Cryder, & Cheema, 2012; Paolacci, Chandler, & Ipeirotis, 2010). Second, we used instances of voice that were actually generated by a different set of Amazon Mechanical Turk workers who had completed a prior simulation, in which they witnessed unfair pay and had the option of sending a message to the perpetrator.

**Sample and Procedures**

A total of 580 people from the United States ($M_{age} = 30.27$, SD = 9.82; 279 male) were recruited from Amazon Mechanical Turk to participate in this study for $2.40 ($1.50 base pay and $0.90 bonus). Data collected from Amazon Mechanical Turk have been shown to be reliable and have the additional advantage of being based on a more diverse population than those found in university laboratories and many organizational samples (Buhrmester et al., 2011; Goodman et
al., 2012; Landers & Behrend, 2015). Demographic studies of Amazon Mechanical Turk participants have indicated that approximately 66% of these workers are employed outside of Amazon Mechanical Turk (Ross, Zaldivar, Irani, & Tomlinson, 2009), which is similar to that of the US labor force participation rate of 62.7% ("Employment status of the civilian population by sex and age," 2016). Furthermore, the results of economic paradigms such as the dictator game and ultimatum game have been replicated on Amazon Turk using stakes as small as $1.00 (Amir & Rand, 2012). In order to qualify for this study, participants needed to pass a series of attention filters. Additionally, if more than one response originated from the same IP address, then only the first response was included in the study.

Participants were informed that they would be taking part in an online, multi-round business team simulation. To increase the realism of the study, participants were asked to upload a picture of themselves, enter their name, and write a three-sentence biography (including first name, occupation, and reason(s) for participating in the study). Next, participants were brought to a waiting screen, which indicated that the team was being filled with other participants. Unbeknownst to participants, the other teammates were fictitious and had been preprogrammed to be presented in certain ways. To further increase the realism of the study, participants’ personal information was transmitted to the pages alongside their teammates’ information throughout the study. Furthermore, participants were brought to waiting screens throughout the study to create the appearance that they were waiting for their teammates to catch up to them.

Participants were next informed that the team was filled, and that each of the three members of the team would be assigned to one of three roles (CEO, Vice President, and Employee). They learned the names of their teammates and the roles to which all team members (themselves included) were assigned. Participants were provided with the pictures and bios of
their teammates. The Employee was always female (named Stephanie) and the Vice President was always male (named Ryan). After participants read information about their teammates, they were given information about the team member roles. The CEO (the participant) had the ability to determine pay allocations to teammates from a pool of money that the team earned; the Vice President had the ability to communicate with the CEO and to see how all other team members performed and were paid; the Employee could not communicate with anyone and could not see how any other team members were paid or performed. The participant also was informed that the Vice President’s salary was pre-negotiated as 38% of the money that the team earned. This ensured that the measure of rectifying the injustice (i.e., paying the Employee more) was not confounded with punishing the person engaging in voice (i.e., paying the Vice President less).

Before participants were able to move past the role description page, they were required to answer four questions regarding the role-information that they read. If participants answered any questions incorrectly, they were asked to read the role-information again and had to answer the questions correctly before continuing.

Participants were subsequently provided information regarding the format of the team task. Their task was to answer as many grammatical questions correctly as possible in 60 seconds. The questions were multiple-choice and involved selecting the part of a sentence that contained an error. A sample question is, “I have visited a remote island off the coast of Japan last year. The multiple choices were: a) change “visited” to “visit”, b) remove “have” from the sentence, c) change “have” to “will”, and d) change “Japan” to “japan”.” (The correct answer is b.) Participants were informed that their individual score consisted of the number of questions they answered correctly minus the number of questions that they answered incorrectly.
Furthermore, participants were told that all of the team members’ individual scores would be combined to determine the pool of money the team would receive.

Following the first task, participants viewed their teammates’ and their own scores. It was possible to receive a score from -16 (every answer incorrect) to +16 (every answer correct). All participants (playing the role of the CEO) saw their actual scores. The Vice President always received a score of two on the first task. The Employee received a score of six, unless the participant received a score of six or greater (which happened rarely), in which case the Employee’s score was adjusted so that it was two points higher than the participant’s (the CEO’s) score.1 After viewing their teammates’ scores, participants determined pay allocations. Participants were informed that their team was awarded $0.67 for the task, and that $0.25 (38%) would go to the Vice President. As CEO, participants then decided how to divide the remaining $0.42 between themselves and the Employee.

We used multiple techniques with the goal of inducing participants to pay the Employee unfairly. First, there were default values that participants needed to alter if they wished to change the pay structure ($0.35 for the CEO, $0.25 for the Vice President, and $0.07 for the Employee). Even if participants altered the pay values, we assumed the default values would anchor participants to allocate an uneven distribution of money (Tversky & Kahneman, 1974). Second, by having the Vice President’s pay allocation set to 38%, a clear egalitarian solution was unavailable. In other words, if the participant decided to split the remaining 62% equally between himself/herself and the Employee (31%-31%), then s/he would be paying her/himself less than the Vice President received (38%). Lastly, because time pressure tends to result in people relying more heavily on these types of decision heuristics, participants only had 30

1 In Round 2, the Employee received a score of seven and a similar adjustment was made for those participants who scored a seven or higher. In Round 1, 4.1% of participants scored a six or higher. In Round 2, 18.6% of participants scored a seven or higher.
seconds to make a decision, and there was a 30-second timer counting down at the top of the page (De Dreu, 2003; Finucane, Alhakami, Slovic, & Johnson, 2000). In fact, participants generally distributed the rewards unfairly, paying the Employee an average of only $0.18 (SD = $0.098, Median = $0.17), which was less than half of the amount to be divided, and in a situation in which the Employee performed better than participants.

After participants decided on the pay allocations, they were brought to a waiting screen that stated that the Vice President may be composing a message. After a 30-second wait, participants randomly received one of the following from the Vice President: no message, a neutral message, a slightly challenging message, a moderately challenging message, or a very challenging message. Participants then completed a second round of the grammar task. After this round, participants once again selected pay allocations for themselves and the Employee. Similar default values were used to those from the pay allocation screen from Round 1. After the pay allocation screen, participants were informed that the main business simulation was completed.

Participants then read: “It is a year-end evaluation, and you now have the ability to reward or take away up to $0.20 from the Vice President’s pay (this will not impact your pay). The Vice President and the Employee will not be able to alter the pay allocations or punish you in any way.” Participants selected their punishment or reward allocations from multiple-choice options ranging from -$0.20 to +$0.20 in five-cent increments, enabling us to gather information about the consequence for the voicer of engaging in voice. Lastly, participants completed a questionnaire measuring their perceptions of how persuasive they found the Vice President’s voice to be and how much they wanted to work with the Vice President in the future. Assessing these dimensions allowed us to gain a more complete understanding of the consequences of the Vice President’s expression of voice.
To ensure that there was no cross-talk, at the end of the study, we asked participants how they had heard about the study (e.g., from the Amazon Mechanical Turk website or from a particular online forum). Given that all of the primary Amazon Mechanical Turk forums are public, we checked the indicated forums (Reddit, Mturk forum, etc.) while the study was being run and found no evidence of cross-talk. Furthermore, our study involved a strong test of believability, as participants were giving away money to another participant; if they believed the participant to be fake (either because of cross-talk or lack of believability of the instructions), then the rational choice would have been to keep all of the money for themselves. Only 1.6% of participants kept all of the money for themselves. One week after the conclusion of the study, participants received a debriefing message and a bonus equivalent to the amount they would have earned if they had paid themselves everything and the Employee nothing.

**Materials and Measures**

*Vice President Voice.* Twelve voice messages (three for each of four levels of challenge) were generated from a previous pilot study of 295 Amazon Mechanical Turk participants in a similarly designed simulation. Participants in the pilot study, however, were placed in the role of Vice President with the option to engage in voice. Details of how these messages were generated are included in Appendix A, and the messages utilized in this study are included in Appendix B.

*Employee Pay.* To examine how the challenge level of the message influenced the participants’ behavior, we examined how much participants (the CEO) paid the Employee in Round 2 (post-message) relative to how much they paid the Employee in Round 1 (pre-message).
Vice President Punishment/Reward. To examine how the person who engaged in voice was monetarily punished or rewarded, we used the amount selected for the Vice President in the “year end evaluation” question (from -$0.20 to +$0.20).

For the two following measures, participants responded on a seven-point scale from “strongly disagree” (1) to “strongly agree” (7).

Persuasiveness of Message. We asked participants to evaluate the persuasiveness of the Vice President’s message using three items. A sample item was, “The message I received from Ryan persuaded me to change the amount of pay I gave the Employee,” α = .90.

Desire for Future Interaction with Vice President. To measure desire for future interaction with the person who engaged in voice (the Vice President), we adapted three items from Chen, Brockner, and Greenberg (2003). A sample item was, “I would want Ryan to be a work colleague of mine in the future,” α = .96.

Results and Discussion

Testing for Message Differences within Levels of Challenge. We did preliminary analyses to evaluate whether the messages within each challenge level elicited different effects. More specifically, we conducted one-way ANOVA tests for the three messages within each challenge level for each of the four dependent variables. Given that there were three messages for each of four levels of challenge (12 messages) that could have varied on any of four dependent variables, there were 48 chances for a message to have different effects than another message within the same level of challenge. The results showed that there were no significant differences among messages within any level of challenge for either of the two behavioral variables (Employee pay and Vice President punishment/reward). For the survey measures, only two of the ANOVA tests yielded a significant effect. There was a significant effect associated with the messages for
challenge level six (moderately challenging) on ratings of persuasiveness of the Vice President \(F(2, 120) = 5.198, p = .007\) and desire for future interaction with the Vice President \(F(2, 120) = 3.559, p = .031\). Given that the three messages within each level of challenge generally yielded similar results, however, we collapsed across messages within a given level of challenge.

Responsivity to Challenging Voice. We used ANOVA with Tukey’s tests to compare how challenge levels differed from one another for each of the dependent variables. Given the number of conditions utilized in our study, Tukey’s adjustments resulted in conservative tests of our hypotheses. Reassuringly, an ANOVA indicated that how well participants performed in Round 2 (following the manipulation) was not significantly different between conditions \(F(4, 575) = 0.965, p = .426\), thereby reducing the likelihood that their own performance moderated the influence of the degree of challenge on the various dependent variables. The only analysis that made use of a control variable was on the measure of employee pay, in which Round 1 Employee pay (which transpired prior to the receipt of the message) was controlled.

ANOVA tests indicated that there was a significant effect of level of challenge on all of the dependent variables: Employee pay \(F(4, 574) = 12.028, p < .001\), Vice President punishment/reward \(F(4, 575) = 3.179, p = .013\), persuasiveness of Vice President \(F(4, 574) = 19.862, p < .001\), and desire for future interaction with Vice President \(F(4, 575) = 8.785, p < .001\). The descriptive statistics and graphs of the results by challenge-level are displayed in Table 1 and Figure 2 respectively. As can be seen in Figure 3, movement from no message to moderate levels of challenge either had a positive effect (i.e., on the measures of employee pay difference and persuasiveness) or no effect (i.e., on the measures of reward/punish the Vice President or desire for future interaction with the Vice President). Moreover, further movement

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2 Sensitivity analysis was also conducted by removing the one message in challenge level 6 (moderately challenging) that deviated significantly from the other two messages. Removing this message generally made the results we are about to present even stronger.
from moderately challenging to very challenging either had no positive effect (i.e., on the measure of employee pay difference) or actually had a negative effect (i.e., on the measures of persuasiveness of the Vice President, reward/punish the Vice President and desire for future interaction with the Vice President).

Table 1: Study 1 Mean Values by Condition

<table>
<thead>
<tr>
<th>Impact on the Victim (Employee 2)</th>
<th>Impact on the Voicer (Vice President)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in Employee Pay (Pay Round 2 - Pay Round 1)</td>
<td>Persuasiveness of Message</td>
</tr>
<tr>
<td>No Message</td>
<td>-$0.004 ($0.069)</td>
</tr>
<tr>
<td>Neutral</td>
<td>$0.002 ($0.076)</td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td>$0.017 ($0.080)</td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td>$0.046 ($0.080)</td>
</tr>
<tr>
<td>Very Challenging</td>
<td>$0.048 ($0.094)</td>
</tr>
</tbody>
</table>

Note. Standard deviations are listed in parentheses.
Figure 3. Study 1 Consequences of Voice

The results of Tukey’s pairwise comparisons are displayed in Table 2. For ease of interpretation, the Tukey tests and graph for Employee pay are displayed using a difference score (Pay Round 2 – Pay Round 1). Comparable Tukey’s tests using regressions, in which Round 2 Employee pay was used as the dependent variable and Round 1 Employee pay was used as a control variable, yielded similar results to the Employee pay difference scores.

Note. NM = No Message, N = Neutral, SC = Slightly Challenging, MC = Moderately Challenging, VC = Very Challenging
Table 2: Study 1 Mean Differences between Conditions

<table>
<thead>
<tr>
<th>Employee Pay (Pay Round 2 - Pay Round 1)</th>
<th>No Message</th>
<th>Neutral</th>
<th>Slightly Challenging</th>
<th>Moderately Challenging</th>
<th>Very Challenging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>0.006</td>
<td>0.015</td>
<td>0.021</td>
<td>0.043***</td>
<td>0.052***</td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td>0.050***</td>
<td>0.043***</td>
<td>0.029*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Challenging</td>
<td>0.052***</td>
<td>0.045***</td>
<td>0.031*</td>
<td>0.002</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Persuasiveness of Message</th>
<th>Neutral</th>
<th>Slightly Challenging</th>
<th>Moderately Challenging</th>
<th>Very Challenging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>-</td>
<td>-</td>
<td>1.47***</td>
<td>(0.53)†</td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td></td>
<td>-</td>
<td>1.50***</td>
<td>(0.57)*</td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td>-</td>
<td>-</td>
<td>0.94***</td>
<td>(0.53)†</td>
</tr>
<tr>
<td>Very Challenging</td>
<td>-</td>
<td>-</td>
<td>(0.53)†</td>
<td>(0.57)*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VP Reward/Punishment</th>
<th>Neutral</th>
<th>Slightly Challenging</th>
<th>Moderately Challenging</th>
<th>Very Challenging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>(0.015)</td>
<td>(0.019)</td>
<td>(0.015)</td>
<td>(0.057)**</td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td></td>
<td>(0.004)</td>
<td>0.001</td>
<td>(0.042)†</td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td></td>
<td></td>
<td>0.004</td>
<td>(0.038)†</td>
</tr>
<tr>
<td>Very Challenging</td>
<td>(0.057)**</td>
<td>(0.042)†</td>
<td>(0.038)†</td>
<td>(0.042)†</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Desire for Future Interaction With VP</th>
<th>Neutral</th>
<th>Slightly Challenging</th>
<th>Moderately Challenging</th>
<th>Very Challenging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>(0.03)</td>
<td>0.19</td>
<td>0.23</td>
<td>(0.88)***</td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td></td>
<td></td>
<td></td>
<td>(0.85)***</td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td>0.02</td>
<td>0.05</td>
<td>(0.18)</td>
<td>(1.08)***</td>
</tr>
<tr>
<td>Very Challenging</td>
<td>(0.88)***</td>
<td>(0.85)***</td>
<td>(1.08)***</td>
<td>(0.90)***</td>
</tr>
</tbody>
</table>

†<0.1, *<0.05, **<0.01, ***<0.001

The values displayed are the differences between the means of the row challenge-level and the column challenge-level for each variable. Values in parentheses represent negative values, whereby the mean value of the variable is lower for the challenge level indicated by the row than the challenge level indicated by the column. The significance test utilized Tukey’s adjustments to account for the large number of comparisons.

Taken together, the findings show that increasing levels of challenge elicited greater benefits for the victim with minimal costs to the voicer, up to a point. Once beyond that point — when the voicer offered the most challenging level of voice — the costs to the voicer rose without any further increase in benefits to the victim. That is, slightly to moderately challenging voice may constitute a “sweet spot” for those trying to elicit change in the authority’s behavior without incurring significant personal costs to themselves, the voicer.
STUDY 2: UNDERLYING CAUSES OF RESPONSIVITIY TO CHALLENGING VOICE

Study 1 provided evidence of the effects of varying levels of challenge on superiors’ reactions to both the voiced concern and to the voicer. However, Study 1 did not offer evidence for the underlying reasons for these reactions. To remedy this limitation and to further increase the external validity of the findings, Study 2 utilized a similar study design for the simulation, but with (1) measures of possible mediators for the effects found in Study 1, and (2) participants who had actual managerial experience.

In Study 2, we examine how challenge level influenced supervisor responsivity to both the voiced concern and the voicer. To evaluate the mechanisms underlying the informational effects about the victim, we measure: whether participants indicate that they learned something new about how their behavior impacts someone else (referred to as information novelty), and/or whether the voice increased the salience of the impact of their behavior on a beneficiary (referred to as information salience) (Grant et al., 2007; Grant & Hofmann, 2011a, 2011b). To examine the informational effects regarding the voicer, we measured how accountable the voice recipients felt to their audience (i.e., the voicer). We predict that these variables will have the largest increase at low to moderate levels of challenge, with limited additional gains at very challenging levels.

To further gauge the recipients’ judgments of the voicer, we measured how offensive and threatening participants perceived the voicer to be. We expected that very challenging messages would be perceived as most offensive and threatening, and that these increases might account for the negative reactions to the voicer (e.g., reward/punishment of the Vice President and desire for future interaction with the Vice President) at very high levels of challenge. In sum, Study 2 evaluated the role of various factors in accounting for participants’ reactions to varying degrees
of challenge (i.e., information novelty, information salience, and accountability at low to moderate levels of challenge and offensiveness/threat at high levels of challenge).

**Sample and Procedure**

A panel of 236 managers from the United States ($M_{age} = 40.17$, $SD = 8.63$; 120 male) was recruited through StudyResponse (Piccolo & Colquitt, 2006; Stanton & Weiss, 2002). Participants had an average of 11.5 years of managerial experience ($SD = 7.4$ years) and a median of 10 direct subordinates, participated in this study for $6.16$ in Amazon Gift Cards ($5$ base pay and $1.16$ bonus).

The business simulation in this study was identical to that in Study 1 with a few minor changes. Given that this sample was recruited over time via email, to ensure that the team nature of the simulation remained realistic, when participants received a recruitment e-mail about the study, they were informed that it was a group study for which they were provided with specific times to begin the study to ensure that they would have teammates. Additionally, due to survey pool restrictions, participants were not required to upload a picture of themselves and did not see pictures of their teammates. However, participants still had to write a bio and view those of their teammates. The primary novelty of Study 2 was that it included measures of possible mediators. When participants reached the role assignment page, they were informed that they were assigned to the role of CEO, given that they indicated that they had managerial experience in an introductory set of demographic questions (participants were unaware that only managers were being recruited for this study.)

To control for the impact of any order effects in which the dependent variables (Change in Employee Pay, Vice President Punishment/Reward, and Desire for Future Interaction) and mediators were assessed, the placement of the mediators was counterbalanced. Half of the
participants completed the mediators immediately after receiving voice but prior to the beginning of Round 2 of the simulation (i.e., before paying the Employee the second time), while the other half of participants completed the mediators at the end of the study after the dependent variables had been assessed. To evaluate order effects, we tested whether any of our dependent or mediator variables were significantly affected by the order in which the mediators were assessed. We found that order of measurement did not have a significant effect on any of the measures; hence, we collapsed across the order dimension in the ensuing analyses.

**Dependent Variables**

*Employee Pay.* Employee Pay was measured the same way as in Study 1. That is, we measured how much participants (the CEO) paid the Employee in Round 2 (post-message) relative to how much they paid the Employee in Round 1 (pre-message).

*Vice President Punishment/Reward.* To examine how the person who engaged in voice was monetarily punished or rewarded, we used the amount selected for the Vice President in the “year end evaluation” question. In this study, participants could choose one of 11 options ranging in five cent increments from -$0.25 to +$0.25.

For all of the following measures, participants responded on a seven-point scale in which the endpoints were “strongly disagree” (1) and “strongly agree” (7).

*Persuasiveness of Message.* We asked participants to evaluate the persuasiveness of the Vice President’s message using three items: “The Vice President’s message was convincing,” “The message from the Vice President made a compelling point,” and “I found the message from the Vice President persuasive;” $\alpha = .92$. To permit counterbalancing, these items were slightly different from those used in Study 1 (which explicitly mentioned Employee pay) because half of our participants were asked these items in the middle of the survey (before paying the Employee
the second time). For those participants, explicitly asking about whether they were persuaded to pay the Employee more may have influenced the latter decision of how much to pay the Employee.

*Desire for Future Interaction with Vice President.* Desire for future interaction was measured identically to Study 1, namely, the three items from Chen et al. (2003); \( \alpha = .97 \).

**Mediating Measures Underlying Responsivity to the Voiced Concern**

*Information novelty.* We asked participants to rate the degree to which they learned something new about payment from the Vice President’s message using three items. The items were, “I learned something new about payment to team members from the Vice President’s message,” “The Vice President’s message educated me about how to allocate pay,” and “I was not familiar with how I should pay people until the Vice President’s message,” \( \alpha = .90 \).

*Information salience.* We asked participants to rate the degree to which the Vice President’s message drew their attention to the Employee’s pay. The items were “The Vice President’s message drew my attention to the Employee’s Pay,” “I wasn’t focused on how much I was paying the Employee until I got a message from the Vice President,” and “I wasn’t thinking much about the Employee’s pay until the Vice President alerted me,” \( \alpha = .84 \).

*Accountability to Vice President.* To measure how accountable participants felt, we adapted five items from Hochwarter and his colleagues (Hochwarter et al., 2003; Hochwarter et al., 2007). Sample items included “I was held very accountable for my actions by the Vice President,” “To a great extent, the well-being of my team rested on my shoulders,” and “The Vice President closely scrutinized my efforts,” \( \alpha = .87 \).
Mediating measures underlying responsivity to the voicer.

*Voice-Offensive.* We asked participants to rate the degree to which they felt the Vice President’s message was offensive. The items were “The Vice President’s message was offensive,” and “The Vice President’s message was insulting,” $\alpha = .95$.

*Voice-Threat.* To measure whether participants felt that the Vice President’s message contained a threat, we adapted four items from Sinaceur et al. (2011). Sample items included “The Vice President explicitly stated a threat against me in the simulation,” and “The behavior of the Vice President implicitly conveyed a threat,” $\alpha = .96$.

Lastly, to mask the purpose of the study, irrelevant questions were included with the mediators including, “The Vice President's message offered grammatical tips,” “The Vice President's message was about himself/herself,” and “The Vice President's message was irrelevant to this task.”

**Results and Discussion**

*Testing for Message Differences within Levels of Challenge.* As in Study 1, we conducted preliminary one-way ANOVA tests for the three messages within each challenge level for each of the nine variables. Given that there were three messages for each of four levels of challenge (12 messages) that could have varied on any of nine dependent and mediator variables, there were 108 chances for a message to have differing scores than another message within the same level of challenge. Of all of the tests for differences between sub-messages within each condition, only three ANOVA tests (or less than 5%) yielded significance. Thus, as in Study 1, given that the three messages within each of the four levels of challenge for all dependent variables generally yielded similar results, we collapsed across messages within a given level of challenge.
Reactions to Challenge. Table 3 includes the mean scores and standard deviations for all variables separated by condition. We used t-tests to analyze differences between conditions for all variables, excluding change in employee pay, for which we once again used regressions given that it is a difference score. Given that we had a priori predictions in regard to replicating Study 1, we did not make any post hoc p-value adjustments. Table 4 includes the correlations between all of our variables.

Table 3: Study 2 Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Neutral</th>
<th>Slightly Challenging</th>
<th>Moderately Challenging</th>
<th>Very Challenging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Pay (Pay Round 2- Pay Round 1)</td>
<td>$0.030 (0.093)</td>
<td>$0.048 (0.130)</td>
<td>$0.054 (0.123)</td>
<td>$0.045 (0.111)</td>
</tr>
<tr>
<td>Persuasiveness of Message</td>
<td>4.29 (1.59)</td>
<td>5.06 (1.28)</td>
<td>4.96 (1.33)</td>
<td>3.83 (1.97)</td>
</tr>
<tr>
<td>VP Reward/ Punishment</td>
<td>$0.01 (0.15)</td>
<td>$0.02 (0.15)</td>
<td>$0.01 (0.13)</td>
<td>-$0.05 (0.14)</td>
</tr>
<tr>
<td>Desire for future Interaction with VP</td>
<td>5.02 (1.48)</td>
<td>5.25 (1.35)</td>
<td>5.04 (1.49)</td>
<td>4.23 (1.88)</td>
</tr>
<tr>
<td>Accountability to VP</td>
<td>4.15 (1.35)</td>
<td>4.84 (1.12)</td>
<td>4.87 (1.12)</td>
<td>5.27 (1.19)</td>
</tr>
<tr>
<td>Information Novelty</td>
<td>3.25 (2.02)</td>
<td>3.83 (1.5)</td>
<td>3.48 (1.69)</td>
<td>3.29 (1.73)</td>
</tr>
<tr>
<td>Information Salience</td>
<td>3.06 (1.76)</td>
<td>3.83 (1.64)</td>
<td>3.74 (1.57)</td>
<td>3.76 (1.65)</td>
</tr>
<tr>
<td>Offense</td>
<td>2.83 (2.04)</td>
<td>2.80 (1.85)</td>
<td>2.80 (1.93)</td>
<td>4.76 (1.71)</td>
</tr>
<tr>
<td>Threat</td>
<td>2.76 (1.91)</td>
<td>2.70 (1.74)</td>
<td>2.80 (1.83)</td>
<td>4.10 (1.69)</td>
</tr>
</tbody>
</table>

Note. Standard deviations are listed in parentheses.
Table 4: Study 2 Correlation Table

<table>
<thead>
<tr>
<th></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>
</tr>
</thead>
<tbody>
<tr>
<td>1. Employee Pay (Pay Round 2 - Pay Round 1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Persuasiveness of Message</td>
<td>.218**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Vice President Reward/ Punishment</td>
<td>.100</td>
<td>.337***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Desire for future Interaction with Vice President</td>
<td>.190**</td>
<td>.637***</td>
<td>.582***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Accountability to Vice President</td>
<td>.043</td>
<td>.301***</td>
<td>.045</td>
<td>.182**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Information Novelty</td>
<td>.135*</td>
<td>.594***</td>
<td>.237***</td>
<td>.439***</td>
<td>.457***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Information Salience</td>
<td>.135*</td>
<td>.524***</td>
<td>.144*</td>
<td>.364***</td>
<td>.469***</td>
<td>.785***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Threat</td>
<td>-.033</td>
<td>.123</td>
<td>-.010</td>
<td>.096</td>
<td>.420***</td>
<td>.608***</td>
<td>.598***</td>
<td></td>
</tr>
<tr>
<td>9. Offense</td>
<td>-.080</td>
<td>-.037</td>
<td>-.146*</td>
<td>-.106</td>
<td>.397***</td>
<td>.451***</td>
<td>.487***</td>
<td>.809***</td>
</tr>
</tbody>
</table>

Responsivity to the Voiced Concern. Table 5 shows the results of the comparisons between each condition for all of the variables. As predicted, the change from neutral to slight or moderate levels of challenge significantly increased persuasion, accountability, and information salience. With the exception of accountability, there were no significant added benefits gained when increasing from slightly or moderately to very challenging. Even with accountability, the gain from neutral to both slightly and moderately challenging was almost twice as large (approximately a 0.7 increase on the 7-point scale) as the gain from slightly/moderately challenging to very challenging (approximately a 0.4 gain). We did not find significant effects for voice novelty, perhaps because participants considered themselves to already be familiar with the norms surrounding subordinate pay.
Table 5: Study 2 T-test Mean Comparisons

<table>
<thead>
<tr>
<th></th>
<th>Neutral</th>
<th>Slightly Challenging</th>
<th>Moderately Challenging</th>
<th>Very Challenging</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employee Pay</strong>&lt;br&gt;(Pay Round 2-Pay Round 1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td>1.70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td>2.37</td>
<td>(0.67)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Challenging</td>
<td>1.45</td>
<td>(0.25)</td>
<td>(0.92)</td>
<td></td>
</tr>
<tr>
<td><strong>Persuasiveness of Message</strong></td>
<td>0.77**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td>0.66*</td>
<td>(0.10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Challenging</td>
<td>0.46</td>
<td>(1.23)**</td>
<td>(1.12)**</td>
<td></td>
</tr>
<tr>
<td><strong>Vice President Reward/Punishment</strong></td>
<td>0.014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td>(0.001)</td>
<td>(0.015)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Challenging</td>
<td>(0.058)*</td>
<td>(0.071)**</td>
<td>(0.056)*</td>
<td></td>
</tr>
<tr>
<td><strong>Desire for Future Interaction with Vice President</strong></td>
<td>0.23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td>0.02</td>
<td>(0.22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Challenging</td>
<td>(0.79)*</td>
<td>(1.02)**</td>
<td>(0.81)*</td>
<td></td>
</tr>
<tr>
<td><strong>Accountability to Vice President</strong></td>
<td>0.70**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td>0.73**</td>
<td>0.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Challenging</td>
<td>1.13***</td>
<td>0.43*</td>
<td>0.40†</td>
<td></td>
</tr>
<tr>
<td><strong>Information Novelty</strong></td>
<td>0.58†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td>0.23</td>
<td>(0.35)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Challenging</td>
<td>0.04</td>
<td>(0.54)†</td>
<td>(0.19)</td>
<td></td>
</tr>
<tr>
<td><strong>Information Salience</strong></td>
<td>0.77*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td>0.68*</td>
<td>(0.09)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Challenging</td>
<td>0.70*</td>
<td>(0.06)</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td><strong>Offense</strong></td>
<td>(0.03)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td>(0.04)</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Challenging</td>
<td>1.93***</td>
<td>1.97***</td>
<td>1.97***</td>
<td></td>
</tr>
<tr>
<td><strong>Threat</strong></td>
<td>(0.06)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td>0.04</td>
<td>0.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Challenging</td>
<td>1.33***</td>
<td>1.39***</td>
<td>1.29***</td>
<td></td>
</tr>
</tbody>
</table>

†<0.1, *<0.05, **<0.01, ***<0.001

The values displayed are the differences between the means of the row challenge-level and the column challenge-level for each variable. Values in parentheses represent negative values, whereby the mean value of the variable is lower for the challenge level indicated by the row than the challenge level indicated by the column.
While the change in pay to the Employee based on challenge level differed in a similar magnitude to what we found in Study 1 [neutral = $0.0308; slightly challenging = $0.0478; moderately challenging = $0.0544; very challenging = $0.0453], the differences were not significant. Perhaps the weaker findings in Study 2 as compared to Study 1 on the measure of employee pay were due to the smaller sample size in Study 2. Also, perhaps the sample of managers in Study 2 was less sensitive to changes of such small denominations of money as compared to our non-managerial Amazon Turk sample in Study 1.

Because our results on employee pay in Study 2 were not statistically significant, we ran an additional replication study on Amazon Turk to evaluate whether the significant finding in Study 1 may have been a “false positive.” In this replication study, to further increase realism, at the beginning of the study, participants chatted (via a text-based chat platform built into the survey) in real-time with other participants whom they believed would be their teammates later in the study. Given the goal of the replication study, we only collected the two outcome variables related to the voiced concern (i.e., change in pay to the employee and persuasion). Replicating the results of Study 1, we found that slight and moderate levels of challenge significantly increased both Employee pay (p = .035 and p = .001, respectively) and persuasion (p< .001 for both) relative to neutral messages. Very challenging messages decreased Employee pay relative to moderately challenging messages (p = .050), and very challenging messages decreased persuasion relative to both slight and moderately challenging messages (p< .001 for both); the other between condition comparisons were not significant. The results of this replication study suggested that the significant findings on the measure of employee pay in Study 1 were not a false positive. The full procedures and analyses for the replication study are included in the Appendix C.
Given that we found significant effects of degree of challenge on the measure of persuasiveness but not on change in employee pay in Study 2, we tested for mediation on the former but not on the latter dependent variable. Thus, we examined whether accountability and voice salience mediated the boost in persuasiveness when challenge increased from neutral to both slightly and moderately challenging messages. For all tests of mediation, we used the bias-corrected bootstrap method recommended by Preacher and Hayes (2004) with 10,000 bootstrap samples, and present the resulting confidence intervals for the indirect/mediation effects; the 95% confidence intervals that do not contain zero indicate that the tested indirect effect is significant. For accountability, we found that there was significant mediation in both comparisons [95% CI of the indirect effect: neutral vs. slightly challenging = (.1262, .7803) and neutral vs. moderately challenging = (.1223, .7294)]. Similarly for information salience, we found that there was significant mediation in both comparisons [95% CI of the indirect effect: neutral vs. slightly challenging = (.0693, .6398) and neutral vs. moderately challenging (.0385, .6420)]. Additionally, when we ran tests of multiple mediation with both mediators simultaneously included in the model, both indirect effects remained significant for the two comparisons (neutral to slightly challenging and neutral to moderately challenging). Our findings thus indicated that when voice increased responsivity to the voiced concern (i.e., at slightly and moderately challenging levels), it did so for two reasons: by directing attention toward the objectionable nature of voice recipients’ action and by alerting recipients to the presence of an audience holding them accountable.

Responsivity to the Voicer. We next examined how the level of challenge affected reactions to the voicer. As indicated in Table 5, the degree to which the participant (the CEO) punished the Vice President at the end of the study was similar to what was observed in Study 1,
such that there was always a significant decrease in compensation to the Vice President in response to very challenging messages, but no significant decrease between any other level comparisons. Additionally, we observed a significant decrease in desire for future interaction in response to very challenging messages relative to all other conditions, but not between any other levels. These results are comparable to those from Study 1.

Overall, it appears that the managerial sample in Study 2 behaved similarly to the Amazon Turk sample in Study 1. Three of the four effects (on the measures of Message Persuasiveness, Vice President Punishment/Reward, and Desire for Future Interaction with the Vice President) were replicated, and the fourth effect (Employee Pay), while not significant, trended in a similar direction to the findings in Study 1; moreover, the results on employee pay found in Study 1 emerged in a subsequent sample.

As expected, the proposed mediators of the negative effects of challenge on the voicer — offense and threat — had significantly higher scores for very challenging messages compared to all other conditions (differences between these comparisons ranged from 1.29-1.97 on a seven-point scale). We first examined the mediating role played by offense. For the dependent variable of reward/punishment of the Vice President, we found that perceived offense significantly mediated the differences on the dependent variable when moving from neutral to very challenging [95% CI: (-.0702, -.0028)], and slightly challenging to very challenging [95% CI: (-.0667, -.0017)], but not from moderately challenging to very challenging [95% CI: (-.0558, .0059)]. For the dependent variable of desire for future interaction with the Vice President, we found that perceived offense significantly mediated the differences on the dependent variable between slightly and very challenging [95% CI: (-.8172, -.0161)], but not on the differences on the dependent variable between neutral and very challenging [95% CI: (-.5714, .1796)] or
moderately challenging and very challenging [95% CI: (-.7063, .0846)]. Unsurprisingly, the comparison conditions in which we found consistent indirect mediational effects (i.e., when comparing slightly to very challenging) were also the same comparisons that yielded the largest direct effects on the two dependent variables of interest, VP Punishment/Reward and Persuasiveness of Message. These patterns indicate that the likely reason that we were not able to detect the indirect effects across all of the comparisons of conditions was due to the study being somewhat underpowered relative to the effect sizes of interest. Regardless, a clear pattern of evidence emerged from these results, which indicated that there was an emotional reaction (i.e., being offended) driving the negative repercussions for the voicer at very high levels of challenge.

Lastly, we did not find significant indirect mediation of threat for any pairwise comparison of challenge on either VP Punishment/Reward or Desire for Future Interaction with the Vice President. The lack of significant findings could plausibly be the result of threat being a broad construct that involves both positive and negative components. As seen in Table 5, threat is simultaneously highly positively correlated with both the beneficial construct of accountability (r = 0.420, p< 0.001) and the negative construct of offense (r = 0.809, p<.001). These findings align with existing research that indicates that threat can result in a broad range of both underlying negative and positive attributions such as anger, aggression, competence, and credibility (Higbee, 1969; Sinaceur & Neale, 2005; Sinaceur et al., 2011).

**GENERAL DISCUSSION**

In an effort to understand how those in a position to exercise voice may do so more effectively, our research explored the consequences of challenging voice. The results of both studies showed that increasing levels of challenge have positive and negative consequences: low-to-moderate levels of challenge have positive effects on behavioral and attitudinal measures of
persuasiveness. However, as the challenge level goes from moderate to high, there are no further positive effects on persuasiveness, while negative effects materialize on other measures of importance to those expressing voice. These negative effects for the voicer include financial punishment and decreased desirability as a future interaction partner. Taken together, the results of both studies indicate that the optimal level of challenging voice is moderate, at which most of the potential benefits and few of the potential costs are realized.

In addition to replicating the majority of the effects from Study 1 with a sample of managers, Study 2 delved more deeply into the mechanisms underlying the different impact of challenge level on responsivity to the voiced concern and to the voicer. Slight and moderate levels of challenge improved responsivity to the voiced concern by drawing voice recipients’ attention to both the injustice they committed (increased salience of the harm) and to their audience (increased accountability). In contrast, we found that responsivity to the voicer generally only became negative at high levels of challenge, when recipients of voice began to feel personally offended.

**Theoretical Contributions**

To date, research on voice has fallen into two primary categories: 1) examining the factors that predict whether employees engage in voice or remain silent, and 2) examining how the characteristics — and organizational context — of voice recipients alter their receptivity to voice (Burris, 2012; Detert & Burris, 2007; Morrison, 2011). While these determinants of voice outcomes are vital tools for selecting employees and designing organizations to maximize voice, they provide limited insight for employees who find themselves in situations in which they wish to speak up. To begin to better understand the dynamic factors that drive voice outcomes, especially those that are within the control of employees themselves, we investigated the impact
of how employees speak up, opening the black box between voice and its consequences (Morrison, 2011). Whereas prior voice research in this domain has examined voice messages categorically, comparing the frequency of one category of voice against another (Burris, 2012; Liang et al., 2012; MacKenzie et al., 2011; Maynes & Podsakoff, 2014), we examine how variation along a core characteristic of how voice is expressed – its level of challenge – shapes its intended effect and the fate of the voicer.

We add to existing theory on voice by showing that how a message is conveyed contributes to a recipient’s reaction to that message in cases where the line between promotive and prohibitive voice is less meaningful. Our model of responsivity to voice therefore also suggests that combining elements identified in prior theories of voice, such as criticism (classified as “prohibitive” or “destructive”), alongside suggested changes (classified as “promotive” or “constructive”), may be important in eliciting a response that addresses the voiced concern but spares the messenger undue harm. Our findings do not contradict these existing theories of voice categories; rather, they suggest that there may be a single underlying continuous dimension that explains a large portion of their outcomes. Although promotive (and constructive) and prohibitive (and destructive) voice have been treated as completely different categories of challenging voice, it is plausible that the different outcomes they elicit are simply driven by challenge. Both prohibitive and destructive voice are associated with worse outcomes for the voicer (Liang et al., 2012; Maynes & Podsakoff, 2014), but so too, are they likely associated with high levels of challenge due to their more critical nature on average (e.g., raising a problem created by a superior is more critical than raising a solution). Particularly given the survey methods that have been utilized to examine these existing categories of voice, which average instances of voice over the longer term, the general trend of prohibitive/destructive voice
toward being more challenging is likely to emerge. This higher degree of challenge associated with prohibitive and destructive voice could be to blame for their worsened outcomes.

Our conceptualization of challenge provides added value to existing categorizations of voice, not only due to its more comprehensive explanatory value of voice trends, but also because it can be applied to specific situations. In many cases, employees are not deciding whether to raise a problem or idea; rather, they already have a pre-established idea or problem to raise, and want to determine the optimal way to do so. Our model of voice responsivity provides theoretical insight and practical value into this process. We show that, by utilizing lower degrees of challenge, voice recipients are more inclined to utilize processes associated with System 2 decision making (Kahneman, 2011); with slight to moderate levels of challenge, voice recipients focus on the information provided rather than reacting emotionally. Alternatively, when there are higher degrees of challenge, voice recipients react more automatically due to feeling offended, as would be associated with System 1 decision making processes (Kahneman, 2011). Together, our model highlights how voicers can alter the decision-making process of the voice recipient to favor information over emotion.

**Limitations and future directions**

Our studies shed light on the effect of challenge level on voice responsivity. Although it is likely individuals will generally react badly to what they perceive to be a very challenging message, there is room for further research on the factors that drive these perceptions (i.e., what makes an individual perceive a message to be very challenging). One avenue that is ripe for investigation is to delineate the specific elements that make a message more or less challenging. While we provide evidence that the messages within their respective challenge levels are experienced equally, we do not delve into the exact categories of verbiage that make a message
more or less challenging. For instance, both threats and criticisms increase challenge, but the question remains as to which kinds of statements will generally be perceived as more challenging. Future research can shift challenge from being the independent variable (as we examined it) to being a dependent variable.

It should also be noted that even an identically worded message could be perceived by a voice recipient as more or less challenging. For example, a moderately challenging message among friends (e.g., “You could do better than that”) may come off as very challenging in the context of a subordinate saying it to his supervisor. Potential categories of factors that may alter how challenging a message is perceived to be include interpersonal dynamics, such as power and relationship closeness (Bashshur & Oc, 2015; Morrison, 2011); individual differences, such as self-efficacy (Fast et al., 2014); and work culture (Dutton, Ashford, O'neill, Hayes, & Wierba, 1997; Stamper & Dyne, 2001). To answer our research question, we made a conscious decision to utilize a context in which these potential moderators would have a limited effect through both randomization and through focusing on stripped-down/barebones relationships, both of which allowed us to derive the more pure effects of challenge level on voice. Consequently, one limitation of our studies is that they do not provide empirical evidence regarding other relational contexts, particularly those in which relationships are strong.

That said, the present studies may well provide a conservative test of the effects of challenging voice. The anonymity and the power position of participants (the CEOs) would likely make them feel a limited need to comply with the challenging messages that they received, since the messages came from a stranger with whom they would never again interact. And yet, the level of challenge yielded significant effects on all of our dependent variables. Nonetheless, given that many expressions of voice are not one-off interactions with strangers, it is important
for scholars to continue to test these findings under other conditions in which the cost-benefit trade-off for challenging voice may differ.

Our studies focused on one particular type of challenging voice: justice-centered voice. However, challenging voice can arise in other domains, such as ideas for organizational improvement or suggestions as to how a manager should alter a decision. It may be that justice-centered voice is generally likely to be experienced as more challenging than more instrumentally-focused voice (Sonenshein, 2006). For instance, an employee suggesting a radically new idea need not cause a manager to question her self-worth, but accusing the same manager of morally questionable behavior may unavoidably threaten the manager’s self-image (Monin et al., 2008). Nonetheless, all of the proposed processes that drive responsivity to justice-centered voice should theoretically extend to these other domains of voice, given that they all involve challenging a type of status quo to which a superior may be committed. Therefore, a shift in behavior toward the voiced concern would likely be driven primarily through the content of voice and low to moderate levels of challenge, while negative responses to the voicer would primarily occur at high levels of challenge. Regardless, there is significant value in conducting future research to test and extend the proposed model of voice responsivity to other domains of voice.

Practical Implications

These studies show that challenging a supervisor’s decisions may not invariably elicit negative consequences for the person raising the challenge. Although employees hold implicit theories about the costs they may bear for speaking up (Detert & Edmondson, 2011), we found that the voicer incurs little cost to herself at low-to-moderate levels of challenge; however, at high levels of challenge, the negative consequences to the voicer emerge. In contrast, the benefits
of increasing the level of challenge help the victim up to a point, after which the benefits plateau. Together, these findings show that most of the benefits of challenging voice are obtained at low-to-moderate levels of challenge, and that nearly all of the material and evaluative costs of challenging voice are incurred at the highest levels of challenge. At the highest challenge levels, supervisors may perceive the challenging party to be overbearing rather than constructive (Burris, 2012), and in keeping with research on people’s sensitivity to negative cues, the negativity of highly challenging voice may be weighted disproportionately heavily in evaluations of the person engaging in voice (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Rozin & Royzman, 2001).

Our studies provide evidence that people need not avoid speaking truth to power as long as they do so appropriately. In particular, expressing voice in a moderately challenging way may result in the desired behavioral change of the decision-making authority, without necessarily incurring costs to the employee who speaks up. Although careful observation and analysis are needed to discern the precise line that separates moderate from excessive challenge in a given context, our findings clearly indicate that people may have more latitude to challenge unjust behavior than they might have otherwise believed. The knowledge that challenge need only be low to moderate to elicit change and dodge penalties may induce people to end the eerie silences that too often greet misdeeds in organizations.
Chapter 2: Emotional Labor and Virtual Communication

Andrew Brodsky

ABSTRACT

Employees must often display positive emotions to customers, teammates, and supervisors, regardless of how they are actually feeling. Displaying inauthentic emotions can be costly, as it can be emotionally exhausting, and interaction partners tend to punish those who are perceived as emotionally inauthentic (Grandey, 2003; Groth et al., 2009). To date, research on emotional labor has been seated almost solely in face-to-face and video interactions (Grandey, 2015), but given the proliferation of text-based communication, employees now have a choice about which communication medium to utilize to potentially limit the negative consequences of engaging in emotional labor. Utilizing a matched parent-teacher survey of private schools in Vietnam, a scenario study of employees in a Big 4 accounting firm in Australia, and an online experiment, I examine how emotional labor drives the choice of communication medium as well as how differing communication media impact the outcomes of emotional labor. I find that workers often take what they perceive to be the low effort route, and choose to utilize email when needing to display inauthentic emotions. However, I discover that there is a sweet spot for this kind of communication: telephone communication results in optimal interactional outcomes, because telephone masks nonverbal behaviors better than face-to-face interactions, yet appears higher effort (and thus more authentic) to recipients than email interactions.
INTRODUCTION

Since Hochschild’s (1983) original study of flight attendants, emotional labor has received significant research attention due to its substantial impact on both employee and organizational well-being (Bono & Vey, 2005; Grandey & Gabriel, 2015; Morris & Feldman, 1996). Emotional labor was first defined as “the management of feeling to create a publicly observable facial and bodily display” (Hochschild, 1983, p. 7). Employees engage in emotional labor due to organizational display rules, which often require employees to display positive affect while simultaneously suppressing negative affect. In this vein, emotional labor has often been associated with the common phrase “service with a smile” (Grandey et al., 2005). Research in this domain has specifically examined the psychological costs to those employees who are forced to display these emotions, and under which conditions these forced displays are truly effective. Due to the difficulty of regulating emotions, emotional leakage, the unintentional display of nonverbal signals of true underlying emotions, often undermines the outcomes of emotional labor in these face-to-face interactions (Grandey, 2000, 2003).

Yet, since Hochschild’s original studies, a continually decreasing percentage of organizational interactions are occurring face-to-face. With the increasing virtuality of both customer (Majchrzak, Rice, Malhotra, King, & Ba, 2000; Nambisan & Baron, 2007) and team (Jarvenpaa & Leidner, 1998; Martins, Gilson, & Maynard, 2004; Maznevski & Chudoba, 2000) interactions, as well as the ubiquity of email in almost every kind of work interaction (Byron, 2008; Mazmanian, Orlikowski, & Yates, 2013), emotion in virtual interactions has become a key topic of interest to scholars (Byron, 2008; Derks, Fischer, & Bos, 2008; Walther, Loh, & Granka, 2005). However, little is known about emotional regulation in this context (Byron, 2008; Grandey & Gabriel, 2015).
This chapter takes a two-pronged approach to developing and broadening theory on emotional labor beyond solely face-to-face interactions. First, I examined how emotional labor drives the choice of communication medium (Studies 1 and 2): are employees likely to use more or less rich communication media when engaging in emotional labor? Then, I tested the consequences of this choice (Studies 1 and 3): how do varying communication media impact the outcomes of emotional labor? To answer these questions, I first conducted a matched teacher-parent survey in 11 private international schools in Vietnam and then replicated and expanded on the outcomes of this study using a scenario study of employees at a Big 4 Accounting firm in Australia and a separate online experiment. Together, I found that when employees need to engage in emotional labor, they often take what they perceive to be the easy way out, even at a cost to their own work outcomes.

**VIRTUAL EMOTIONAL LABOR**

**Background**

Developed from Hochschild’s original definition, which only focused on employees altering their facial and bodily displays of emotion, the current working definition of emotional labor has been broadened to the “modification of feelings or expressions” (Grandey & Gabriel, 2015, p. 325). Emotional labor scholars have primarily noted two categories of emotional labor: surface acting and deep acting. Surface acting involves the modification of expressions, while deep acting involves the modification of the underlying feelings (Grandey, 2000). Surface acting has been equated with “faking” the emotion and wearing a mask, whereas deep acting entails actually trying to feel the needed emotion, such that the required emotional display is truly authentic (Grandey, 2003; Grandey & Gabriel, 2015).
In studies of primarily face-to-face interactions, surface acting has been shown to detract from employee and organizational well-being (Bono & Vey, 2005; Grandey & Gabriel, 2015; Groth et al., 2009). Masking emotion is cognitively taxing, which can cause stress and burnout for employees (Brotheridge & Grandey, 2002; Coté, 2005; Grandey, 2003). The primary underlying mechanism for these findings is similar to that of any type of regulatory process; given that regulation is effortful, it depletes mental resources (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Muraven & Baumeister, 2000). What make surfaces acting, as opposed to deep acting, so depleting is that surface acting requires the vigilant attention to monitor and alter facial and bodily displays in real time interactions (Coté, 2005; Grandey et al., 2005; Hülsheger & Schewe, 2011; Martínez-Iñigo, Totterdell, Alcover, & Holman, 2007).

Additionally, surface acting can result in negative interactional outcomes, since interaction partners in face-to-face interactions often detect and consequently punish displays of inauthentic emotions (Côté, Hideg, & van Kleef, 2013; Grandey et al., 2005; Groth et al., 2009). The key mechanism in this set of findings is what is often referred to as “emotional leakage,” ineffectively regulating emotional displays such that the true underlying emotion “leaks” through (Grandey, 2000, 2003). Nonverbal behaviors involving facial and bodily displays are notoriously hard to effectively regulate, as they are often unconsciously utilized without the communicators being aware that they are even displaying them (DePaulo, 1992; DePaulo et al., 2003; Ekman & Friesen, 1969).

Opposite to surface acting, deep acting has been shown to generally result in positive outcomes for the actor. Given that deep acting is antecedent-focused and involves actually altering the underlying emotions prior to any displays, it negates the need to exert effort to regulate emotional displays. Consequently, there is no emotional leakage when deep acting due
to the underlying emotion matching the desired emotion displayed (Grandey & Gabriel, 2015; Hülsheger & Schewe, 2011). Consequently, deep acting is generally unrelated to burnout and is associated with more positive interactional outcomes (Kammeyer-Mueller et al., 2013).

Since this chapter’s focus is on communication media, I focus primarily on surface acting, or the displays of inauthentic emotion, because it involves altering communication behavior (the expression of emotions). Alternatively, deep acting, which involves altering underlying emotions, does not involve actually regulating any part of the communication process itself. Consequently, the process of deep acting is less likely to be impacted by the communication medium, because the regulation process occurs prior to any utilization of communication technology.

**Virtuality and Emotional Labor**

In the aforementioned studies of emotional labor, I highlighted two key sets of mediators that drive the outcomes of surface acting: the effort needed to mask physical nonverbal behaviors and emotional leakage through unconscious displays of those physical behaviors. However, these mediators are partially—and possibly completely—irrelevant in audio (e.g., telephone) and text-based (e.g., email) communication. Yet, clearly, employees still have the need to display positive emotions when interacting with others, whether it be via telephone or email. Accordingly, the question arises as to how communication medium will alter both the degree of effort needed to engage in surface acting and authenticity perceptions by message recipients. As one perspective, Byron (2008) put forward that less rich modes of communication, such as email, may be ideal for surface acting as they allow for better ease of masking emotions. Alternatively, there are multiple studies and theories that show that attempting to display emotion over communication media low on richness tends to backfire; emotion in email is often misinterpreted in a negative fashion
(Dennis & Valacich, 1999; Kruger, Epley, Parker, & Ng, 2005; Maruping & Agarwal, 2004). Given these two contrasting perspectives, what is the best choice of communication medium for surface acting?

**Communication Medium Choice for Emotional Labor.** Before theorizing on the ideal communication modes when displaying inauthentic emotion, it is first important to consider which communication medium people are drawn toward when there is a need to engage in surface acting. When employees approach an interaction, they often have a choice of which communication medium to use: a teacher can choose to call or email a student’s parent, and a car salesman can send a follow-up email or call the customer.

A guiding force of human behavior that has been incorporated into many management and psychology theories, particularly those addressing approach/inhibition (Carver, Sutton, & Scheier, 2000; Keltner, Gruenfeld, & Anderson, 2003) and prevention/promotion behaviors (Higgins, 1997), is that humans seek to gain pleasure and avoid pain. As it relates to surface acting, the “pain” is caused due to both the effort needed to present inauthentic emotions and the potential of being punished for being perceived as inauthentic by others. The “pleasure” is caused by a potential reward at a later time for performing effectively in an interaction with a customer, supervisor, or coworker. Accordingly, workers will consider two potential questions when choosing a communication medium: 1) which medium will require the least effort, and 2) which medium will result in the best interactional outcome.

For the former question, I turn to media richness theory, which orders communication media based on the degree to which they can relay *information* (Daft & Lengel, 1986). Daft and Lengel (1986) categorize face-to-face communication as the most rich medium, followed by telephone, and then text-based communication. The degree of richness is likely to be very
relevant to surface acting, in that this process involves regulating the emotional information that is relayed. The richer the medium, the more information there is to monitor and regulate. In face-to-face interactions, body language, facial expression, tone of voice, and word choice need to be regulated. In telephone interactions, tone of voice and word choice need to be regulated. In email, only word choice needs to be regulated. Further, email provides an ancillary benefit beyond the other modes of communication in that it allows extra time for the information to be regulated at ease, as the communication is temporally asynchronous (Dennis & Valacich, 1999).

From an effort perspective, I hypothesize that the less rich the medium, the less “pain” is needed to engage in the potentially highly depleting behavior of surface acting. Consequently, when the option is available, I predict that workers will be inclined to choose less rich media when engaging in surface acting.

I argue that the second question (which medium participants believe will be most effective for the interactional outcomes of surface acting) will be less relevant to the communication medium decision for three primary reasons. First, this decision is more temporally removed and less salient than the “effort” decision. Whereas workers will immediately expend less effort by choosing less rich communication media, the rewards for having an effective interaction will often not be realized until later (e.g., during a performance evaluation by a manager), if ever. Second, the answer to which medium is “best” for surface acting will be far more ambiguous to workers than which medium is “easiest” for surface acting. For instance, although it is clear that email will involve less effort spent monitoring physical nonverbal behavior, it is less clear whether the potential benefits for the communicator that email provides for masking emotions will outweigh the potential costs of using email. A number of studies have shown what is now common knowledge: emotion in email is often misinterpreted
(Byron, 2008; Kruger et al., 2005). Lastly, and perhaps most importantly, people are highly overconfident in their own abilities to relay emotions (Kruger et al., 2005). This overconfidence is particularly relevant to surface acting because workers continually and often ignorantly engage in detrimental emotional regulation strategies even though they undermine their performance (Gardner, Fischer, & Hunt, 2009; Webb, Miles, & Sheeran, 2012). Given workers’ overconfidence in their communication abilities, they would be less likely to be swayed by what they might consider easily overcome hindrances associated with certain media. For instance, across five studies, Kruger and colleagues (2005) consistently show that people are overconfident in the accuracy with which they can relay emotions over email.

Given these two factors, I predict that when engaging in surface acting, workers will choose less rich communication media, when available, primarily because they perceive these media to require less effort.

**Hypothesis 1:** Message senders will perceive less rich communication media as requiring less effort for surface acting.

**Hypothesis 2:** Surface actors will be inclined to choose less rich communication media.

**Hypothesis 3:** Perceived effort will mediate the relationship between surface acting and communication medium choice.

**Outcomes of Communication Choice for Emotional Labor.** Having hypothesized that workers will be more likely to choose less rich communication media for surface acting, the logical next step is to examine whether this decision is an optimal one.

From the communication recipients’ perspective, there are two determining factors as to how they will evaluate the authenticity of received emotional communication: 1) information gleaned from the message (e.g., facial displays and word choice), and 2) inferences made from the choice
of communication medium (e.g., does the choice of medium make a message seem more/less authentic). For the first point, it is clear from the broad body of research on emotional labor that in face-to-face interactions, interaction partners can often detect emotional leakage and emotional inauthenticity (Grandey & Gabriel, 2015; Groth et al., 2009; Hülsheger & Schewe, 2011). Also, it is objectively true that facial and bodily nonverbal behaviors cannot be “leaked” over less rich media such as telephone and email. Accordingly, due to these objective characteristics of communication media, I make an assumption that there will be less emotional leakage in less rich modes of communication. In this chapter, I instead focus primarily on hypothesizing about—and examining—the unexplored and potentially countervailing factor of inferences made from the medium choice itself.

Beyond utilizing cues within the message itself, I hypothesize that communication recipients will make inferences from the medium choice, as well. Specifically, assuming that interaction partners have similar understandings of communication media, I predict that the communicator’s choice of a medium that is perceived to be more effortful by the message recipient will make message emotion seem more authentic. Similar to how message-senders realize that it would be less effortful to use email over telephone or face-to-face interactions for surface acting, so too do I predict that message-recipients will realize the same trade-off. Accordingly, message-recipients will be more likely to infer inauthentic emotion from low effort communication media, as it is easier for the sender to fake that emotion.

Together, these arguments suggest that there may be a sweet spot in the middle of medium richness in terms of interaction outcomes. Telephone (moderate richness) and email (low richness) may be better than face-to-face (high richness) communication because the cues of
inauthentic emotion are more hidden. However, telephone may be better than email because email is likely to be perceived as very low effort and thus more likely to be inauthentic.

_Hypothesis 4: When communicators engage in surface acting, telephone communications will be perceived by message recipients as more authentic than either face-to-face or email communications._

_Hypothesis 5: When communicators engage in surface acting, message recipients will perceive the choice to utilize less rich communication media to be less effortful on the part of the message-sender._

_Hypothesis 6: When communicators engage in surface acting, perceived effort will mediate the effect of richer media being perceived as more emotionally authentic than less rich media._

Hypotheses 1-3 predict that surface actors will be more likely to choose email over other modes of communication, yet Hypotheses 4-6 indicate that this decision is sub-optimal from an organizational perspective, as communication partners (such as customers) will perceive the organization’s employees to be less authentic when they make this choice. In the following three studies, I test these hypotheses.

**STUDY 1: A MATCHED TEACHER-PARENT SURVEY**

The goal of Study 1 was twofold: to determine whether there is an association between surface acting and choice of communication medium (Hypothesis 2), and to determine whether communication medium alters recipient detection of surface acting (Hypothesis 4). To test these relationships, I conducted a matched teacher-parent survey in a set of 11 private international schools in Vietnam. The school system has 313 teachers and 1926 student families. Student families are a mixture of local families and expatriates from primarily English speaking
countries. Given that families in this school system pay a significant fee to enroll their children in the schools, teachers in this context need to be very focused on managing relationships with parents (similar to customer representatives in most companies). This setting provides a particularly interesting test of these relationships, since teachers must aim to have positive interactions with parents even though the vast majority of the time that they need to initiate interactions with parents involves relaying some kind of negative news (e.g., a student forgetting homework, behaving badly, or receiving a poor grade).

**Sample and Procedure**

Two hundred teachers (76.2% female; $M_{age} = 34.12$, $SD_{age} = 9.20$) and 436 parents (61.7% female; $M_{age} = 38.12$, $SD_{age} = 8.89$) from a set of 11 international private schools in Vietnam took a survey regarding their interactions. The teachers taught in grades ranging from pre-school to the end of high school. Participants had an option to take the survey in either English or Vietnamese (52.0% of teachers took the English version and 43.3% of parents took the English version). The survey translation followed best practices for multi-lingual studies by utilizing three independent translators for a back-translation process (Brislin, 1980; Schaffer & Riordan, 2003; Spector, Liu, & Sanchez, 2015). The first translator translated the survey items from English to Vietnamese. The second translator was only given the Vietnamese translation, and translated that version back to English. The researcher and the two translators compared the original and back-translation for inconsistencies, and then discussed these inconsistencies as a group to resolve them. Finally, a third translator was brought in to compare the final English version of the survey to the final Vietnamese version to ensure that they were identical. At this point, only minor inconsistencies were noticed, which were discussed and resolved by the entire
group. Separate internal reliability scores for both the English and Vietnamese scales are reported in the Measures section.

Teachers were asked to answer questions regarding the degree to which they engaged in emotional labor, the percentage of time they utilized different communication media, their job satisfaction, and their positive affect.

Due to field site limitations, parents were randomly assigned to evaluate only one of their child’s teachers. Parents evaluated the degree to which they perceived their child’s teacher to be displaying inauthentic emotion.

Measures

All items utilized a one to seven (strongly disagree to strongly agree) scale unless otherwise noted.

**Parent-rated emotional labor.** To measure whether parents perceived their child’s teacher’s emotions to be inauthentic, parents completed three items that measured their perceptions of teacher surface acting ($\alpha_{\text{english}} = 0.901$, $\alpha_{\text{vietnamese}} = 0.899$). The items were adapted from Grandey’s (2003) emotional labor scales. An example item from the surface acting scale was “My child's teacher just pretends to have the emotions she/he displays to me.”

**Teacher self-rated emotional labor.** To measure the degree that teachers actually displayed inauthentic emotions, teachers completed three items that measured surface acting ($\alpha_{\text{english}} = 0.899$, $\alpha_{\text{vietnamese}} = 0.824$). To provide two potential tests of the hypotheses, I not only compared teachers who were high on surface acting to those who were low on surface acting, but also compared high surface actors to high deep actors. Deep acting was also measured using three items ($\alpha_{\text{english}} = 0.877$, $\alpha_{\text{vietnamese}} = 0.924$) separately. All items were adapted from Grandey’s (2003) emotional labor scales. An example item from the surface acting scale was “I
just pretend to have the emotions I need to display to students' parents,” and an example item from the deep acting scale was “I try to actually experience the emotions I have to show to students' parents.”

Teacher communication tendencies. Teachers were asked to indicate the percent of time they used various communication media for the conversations that they initiated with parents. The question explicitly stated that teachers should only count the conversations that they themselves initiated and to ignore conversations that were initiated by a parent. Teachers were able to list the percent of the time they used in-person conversations, telephone conversations, email conversations, paper mail, instant messaging, cell phone texting, and other media. The total percent needed to add up to 100 before participants were able to move forward in the survey. Only the primary communication media that were used by at least 50% of teachers (in-person = 93%, telephone = 66%, email = 65%) were analyzed; the other communication media that were used by fewer than 50% of teachers were not analyzed (mail = 33%, instant messaging = 12%, cell phone texts = 43%, other = 18%).

Controls. To eliminate likely confounds between emotional labor and communication choice, job satisfaction and positive affect were measured. These controls were utilized because both predict the need to engage in emotional labor (Grandey & Gabriel, 2015; Kammeyer-Mueller et al., 2013), and have the potential to simultaneously alter the manner in which teachers choose to engage with parents. Consequently, without the inclusion of these controls, it would be less possible to tell if surface acting was directly associated with medium choice or if there was an underlying confounding variable that was independently driving both variables in the same direction. As a test of robustness, the communication choice models were separately run with the control variables included and excluded. Job satisfaction was measured with four items
developed by Eisenberger, Fasolo, and Davis-LaMastro (1990); an example item was “All in all, I am very satisfied with my current job” ($\alpha_{\text{english}} = 0.909$, $\alpha_{\text{vietnamese}} = 0.813$). Positive affect was measured using five items from an abbreviated version of the PANAS scale, which has been previously shown to be reliable in international contexts ($\alpha_{\text{english}} = 0.835$, $\alpha_{\text{vietnamese}} = 0.829$) (Thompson, 2007).

Results and Discussion

**Communication medium choice.** The descriptive statistics and correlations for the measures collected from teachers are included in Table 6.

Table 6: Study 1 Means, Standard Deviations, and Correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>s.d.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Surface Acting</td>
<td>2.58</td>
<td>1.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Deep Acting</td>
<td>4.62</td>
<td>1.57</td>
<td>-09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. In-person %</td>
<td>48.73</td>
<td>30.66</td>
<td>-14*</td>
<td>-05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Telephone %</td>
<td>12.94</td>
<td>15.26</td>
<td>-15*</td>
<td>19**</td>
<td>-25***</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5. Email %</td>
<td>17.53</td>
<td>23.57</td>
<td>-29***</td>
<td>-22**</td>
<td>-48***</td>
<td>-23**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Satisfaction</td>
<td>5.25</td>
<td>1.35</td>
<td>-48***</td>
<td>12†</td>
<td>16*</td>
<td>07</td>
<td>-29***</td>
<td></td>
</tr>
<tr>
<td>7. Positive Affect</td>
<td>4.03</td>
<td>0.59</td>
<td>-46***</td>
<td>18*</td>
<td>04</td>
<td>12</td>
<td>-22**</td>
<td>39***</td>
</tr>
</tbody>
</table>

†$p < 0.1$, *$p < 0.5$, **$p < 0.01$, ***$p < 0.001$

I conducted regression analyses to determine whether surface or deep acting was associated with a higher likelihood of using each medium. I conducted three sets of separate regression analyses, which varied based on which communication medium was used as the dependent variable. As a robustness check, for each set of the analyses, two different models were tested, one with the two control variables (job satisfaction and positive affect) and one without the control variables. The results of these analyses are included in Table 7.
Table 7: Study 2 Communication Choice Regressions

<table>
<thead>
<tr>
<th></th>
<th>Face-To-Face</th>
<th></th>
<th>Telephone</th>
<th></th>
<th></th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 1</td>
<td>Model 2</td>
</tr>
<tr>
<td>Surface Acting</td>
<td>-3.21*</td>
<td>-2.38</td>
<td>-1.37†</td>
<td>-1.30</td>
<td>4.51***</td>
<td>2.86*</td>
</tr>
<tr>
<td>Deep Acting</td>
<td>-1.24</td>
<td>-1.30</td>
<td>1.68*</td>
<td>1.65*</td>
<td>-2.90**</td>
<td>-2.61*</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>3.05</td>
<td>-0.23</td>
<td>0.95</td>
<td></td>
<td>-3.00*</td>
<td></td>
</tr>
<tr>
<td>Positive Affect</td>
<td>-2.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.79</td>
</tr>
<tr>
<td>R²</td>
<td>0.025</td>
<td>0.038</td>
<td>0.051</td>
<td>0.052</td>
<td>0.124</td>
<td>0.150</td>
</tr>
<tr>
<td>F</td>
<td>2.509†</td>
<td>1.946</td>
<td>5.328**</td>
<td>2.698*</td>
<td>13.825***</td>
<td>8.623***</td>
</tr>
</tbody>
</table>

†p < 0.1, *p < 0.5, **p < 0.01, ***p < 0.001
Standardized Coefficients are reported.

These results indicated that high surface acting positively predicted the percent of time that email was used, and negatively predicted usage of richer media (though only the effect on email was robust to the inclusion of the controls). By contrast, deep acting negatively predicted the percent of time that email was used, and significantly predicted the percent of time that telephone conversations were utilized. Most of these relationships remained comparably significant with the addition of the control variables. Together, in support of Hypothesis 2, these findings suggest that there is an extremely robust relationship between displaying inauthentic emotions and choosing to use the least rich communication medium, email. Depending on the model utilized, for each point increase in emotional labor (out of seven points), the proportion of communication that is done via email increases by 2.9%-4.5%; these model-predicted values indicate there is a 20%-30% difference in email usage between low (score = 1) versus high (score = 7) surface actors.
**Communication medium outcomes.** From the data, there were 73 pairs of teachers and parents, which included 35 teachers with an average of 2.1 matched parent responses each. To determine the extent to which parents could detect inauthenticity across differing media, I utilized hierarchical linear modeling within HLM 7.01 with full information maximum likelihood estimation and robust standard errors to account for the nested nature of the data. The dependent variable was the parents’ ratings of teacher inauthenticity (parent-rated surface acting). The model includes predictor terms for teacher-rated surface acting, the percentage of time that each of the three primary communication media are utilized, and interaction terms between teacher-rated surface acting and each of the communication medium percentages. All predictors were grand-mean centered. The primary predictors of interest in the model are the interaction term between surface acting and each of the respective communication media; these terms can be interpreted as the degree to which high-surface actors’ use of the respective communication medium predicts parent perceptions of surface acting. There is possibly a potential bias between the type of people who would be more likely to use one medium over another when surface acting. For instance, teachers who feel most effective faking emotion in face-to-face settings may be more likely to choose to utilize this medium. However, the presence of this bias should theoretically work against the hypotheses, resulting in a conservative test, as individuals should choose whichever medium would work best for themselves, which would decrease the likelihood of finding significantly differing patterns based on medium usage. Further, to fully eliminate the possibility of any confounds, I later experimentally test these relationships in Study 3.

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3 One dyad was excluded because the teacher’s noted telephone communication percentage was over 6 standard deviations from the mean, and all other communication scores were within 3 standard deviations of the mean. Including this outlier in the analyses did not meaningfully alter the findings.
Four different models were analyzed: one model analyzing each communication medium independently, and then one model that includes all of the communication media. The HLM results are displayed in Table 8. As a separate robustness check, the models were rerun including deep acting as a control, and none of the interaction terms changed in regard to whether they were significant.

Table 8: Predictors of Parent Perceptions of Teacher Inauthenticity

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>2.337*** (0.117)</td>
<td>2.308*** (0.101)</td>
<td>2.372*** (0.120)</td>
<td>2.338*** (0.098)</td>
</tr>
<tr>
<td>Surface Acting</td>
<td>-0.072 (0.190)</td>
<td>0.169 (0.100)</td>
<td>0.068* (0.131)</td>
<td>-0.347† (0.184)</td>
</tr>
<tr>
<td>In-Person %</td>
<td>-0.010 (0.009)</td>
<td></td>
<td></td>
<td>-0.017† (0.009)</td>
</tr>
<tr>
<td>Telephone %</td>
<td>0.062* (0.024)</td>
<td></td>
<td></td>
<td>0.068* (0.024)</td>
</tr>
<tr>
<td>Email %</td>
<td></td>
<td>0.012 (0.014)</td>
<td></td>
<td>0.004 (0.013)</td>
</tr>
<tr>
<td>Surface Acting x In-Person %</td>
<td>0.003 (0.003)</td>
<td></td>
<td></td>
<td>0.007* (0.003)</td>
</tr>
<tr>
<td>Surface Acting x Telephone %</td>
<td>-0.025*** (0.007)</td>
<td></td>
<td></td>
<td>-0.021** (0.006)</td>
</tr>
<tr>
<td>Surface Acting x Email %</td>
<td></td>
<td>-0.002 (0.003)</td>
<td></td>
<td>0.003 (0.003)</td>
</tr>
</tbody>
</table>

Note. The multilevel model coefficients are reported, with the standard errors in parentheses.

As can be observed in the table, there is a clear negative interaction effect between teachers’ surface acting and the percentage of time they choose telephone communication on parents’ evaluations of teacher surface acting. In other words, in support of Hypothesis 4, the more surface actors used the telephone over other media, the more inauthentic they appeared to parents. The nature of this interaction is graphed in Figure 4.
When examining Model 4 with all modes of communication simultaneously included, there is a significant effect of the interaction term of the percent of face-to-face communication and teacher surface acting on parent perceptions of surface acting. This result replicates findings from prior research in that surface acting is detectable in face-to-face interactions (Grandey & Gabriel, 2015; Groth et al., 2009). I did not find a significant effect of email either improving or worsening outcomes for surface actors. There are three likely explanations for this lack of findings regarding email outcomes: a) Hypothesis 5 may be partially incorrect; b) the study was too underpowered to detect the email effects; and/or c) given that parents and teachers interact over mixed modes of communication, it is plausible that the other modes of communication might have been weighed more heavily in evaluations of teacher inauthenticity, thereby limiting any effects of email. For instance, research on prosocial helping has shown that beneficiaries of employees are more salient to those employees (which consequently increases employee motivation) when the employees and beneficiaries interact in-person as opposed to writing letters (Grant et al., 2007). Similarly when the parents evaluated teachers in this study, it is plausible
that their richer (e.g., face-to-face) interactions may have been more salient irrespective of their frequency relative to email. To test this reasoning more directly, Study 3 experimentally tests evaluators’ impressions in direct comparisons between an email and telephone call with emotion.

The results from this study are limited given that they are correlational and the communication choice analyses (the first half of the analyses) utilize a common source for the data. However, for the communication choice findings, I controlled for potential confounds that are likely to share (and thus reduce) common method variance. Also, common method variance is likely to be reduced by measuring the independent variables (emotional labor on a 1-7 scale) and dependent variables (communication medium use as a percentage) in differing formats (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff, MacKenzie, & Podsakoff, 2012). To more thoroughly test whether there is a true causal relationship between emotional labor and communication medium choice, Study 2 involves an experimental scenario study of employees in a Big 4 accounting firm. Then, to test the causal relationship between email and telephone communication choice and recipient perceptions of surface acting, Study 3 utilized an online experiment.

**STUDY 2: A SCENARIO STUDY AT A BIG 4 ACCOUNTING FIRM**

The goal of Study 2 was to experimentally test the findings of Study 1, to determine whether surface actors will choose to use less rich communication media (Hypothesis 2). Further, Study 2 includes measures of perceived effort to determine whether this factor mediates the relationship between surface acting and medium choice, as articulated in Hypotheses 1 and 3. To test these hypotheses, I conducted a scenario study of employees at a Big 4 Accounting firm in Australia. Employees read two scenarios, one with surface acting and one without, in which they were asked to indicate whether they would choose to communicate via phone or email.
chose to compare telephone to email usage as a conservative test, as these media are closest in richness to one another. To ensure the scenarios were realistic, they were developed based on prior interviews that were conducted with employees.

**Sample and Procedure**

Study 2 utilized 234 employees (Mean\textsubscript{Age} = 33.6, SD\textsubscript{Age} = 7.8, 71.4\% male) from a finance group in the Australia office of a Big 4 Accounting firm. Each employee read two scenarios in random order, one regarding an interaction with a client and another regarding an interaction with a coworker. To increase realism, employees were told (truthfully) that the scenarios were based on stories told during employee interviews that were conducted at their firm two months prior. Both scenarios involved needing to potentially engage in emotional labor:

**Coworker Scenario**

*The new laptop that you just bought keeps overheating and shutting down whenever you use it for more than an hour. You took it back to the store to get it fixed. They immediately knew what was wrong—the fan was clearly not working. Even though the store said they would fix it in 48 hours, it took them over a week to get your laptop back to you.*

*When you get to work and open up the laptop that you just got back, it overheats and shuts itself down within half an hour. It’s obvious that the store didn’t fix the fan. As a result, you are incredibly angry at the store for wasting your time. To make matters worse, when you call the store, they don’t apologize. Instead, they claim that you must have broken the fan again.*

*At this point you are furious, but you need to begin your work and will have to resolve the issues with the store later.*

*You now need to ask a quick, time-sensitive question of a coworker from another office, who previously worked with one of your current clients. Year-end 360 degree evaluations (which involve your coworkers rating you) are coming up, so you want to be especially careful to avoid letting your anger show in your interaction with your coworker. In the past, you’ve frequently communicated with this coworker via both phone and email.*
Client Scenario:

You are currently on a client-facing project to help determine projected future earnings for a potential acquisition. You are now just putting the finishing touches on the report that you are supposed to send to the client on the coming Monday.

On the Friday before the deadline, you get an email from the CFO of the client company: “I just realized that I forgot to send the attached documents and thought they might be useful for your projections.”

As soon as you open the documents, you realize that they introduce new information that completely undermines the basic assumptions that your model is based on, and that the CFO likely had access to this information the entire time. As a result, you end up having to spend the whole weekend working to redo the entire model. You are extremely frustrated that the client took your time for granted.

Monday arrives and after delivering the report to the CFO, you need to thank him for his business. As always, it’s important to be positive when dealing with clients to ensure that they stay satisfied.

Participants received additional information for each scenario, such that one of the scenarios randomly involved surface acting, while the other involved an external influence that removed the need to surface act.

Surface Acting (Coworker):

You are still feeling extremely angry about your laptop. As a result, you know you will need to hide your anger and fake being happy to avoid creating a bad impression when communicating with your coworker.

Given that you know you will need to hide your anger and fake being happy to your coworker, how would you most likely choose to communicate with your coworker?

No Acting (Coworker):

While you were still extremely angry about your laptop at the beginning of the day, you are actually now in a great mood. On the way into work, you heard your favorite song on the radio, which reminded you of one of your happiest memories. As a result, you know
that it will be easy to be happy to create a good impression when communicating with your coworker.

Given that you know you are already happy and no longer need to worry about monitoring your emotions with your coworker, how would you most likely choose to communicate with your coworker?

Surface Acting (Client):

However, you are still extremely frustrated because your entire weekend was spent working. As a result, you know you will need to hide your frustration and fake being happy to avoid creating a bad impression on the CFO.

Since you are in your home office and the client is in another city, you have the choice of emailing or calling the CFO to thank him for his business. You have spoken on the phone and emailed the CFO many times, so neither method would be unusual.

Given that you know you will need to hide your frustration and fake being happy to the CFO, how would you most likely choose to communicate with the CFO?

No Acting (Client):

While you aren’t happy with the client because your entire weekend was spent working, you are actually now in a great mood. On the way into work, you heard your favorite song on the radio, which reminded you of one of your happiest memories. As a result, you know that it will be easy to be happy to create a good impression when communicating with the CFO.

Since you are in your home office and the client is in another city, you have the choice of emailing or calling the CFO to thank him for his business. You have spoken on the phone and emailed the CFO many times, so neither method would be unusual.

Given that you know you are already happy and no longer need to worry about monitoring your emotions with the CFO, how would you most likely choose to communicate with the CFO?

Immediately after each scenario, participants chose whether they would communicate in that situation via email or telephone. Following the two scenarios, participants were asked questions regarding how they perceived communicating inauthentic emotion over face-to-face,
telephone, and email. On a seven-point scale, participants rated both “It is emotionally
exhausting for me to display inauthentic emotions when communicating over [Medium]” and “It
is difficult for other people to detect when I am "faking" emotions when communicating over [Medium]” for each of the three communication media.

Results and Discussion

Given that participants were randomized across scenarios, I collapsed the scenarios into
surface acting versus no acting. Overall, participants chose telephone more frequently than email
across all scenarios, possibly due to overarching organizational or situational norms. However,
when participants responded to the no acting scenario, 12.8% indicated they would communicate
via email, but, when they responded to the surface acting scenario, 41.9% indicated they would
communicate via email. Given that participants read both scenarios, I used a McNemar within-
subject test to determine whether participants’ responses varied based on whether the scenario
involved surface acting. In support of Hypothesis 2, the test results indicated the conditions were
highly significant (p< .001), demonstrating that participants shifted to less rich media when
engaging in surface acting. Similar to Study 1, these findings support Hypothesis 2. These results
are displayed in Figure 5.
When I examined both scenarios separately (client and coworker) as between subject tests (whether they involved surface acting or no acting), all Chi-Square results were still highly significant (p<.001), indicating that when people have to engage in surface acting (as opposed to no acting), they are significantly more likely to use email. Interestingly, irrespective of the condition, a greater proportion of participants chose telephone absolutely relative to email; only in the surface acting condition did the proportion of employees choosing email become closer to the proportion of employees choosing telephone. This finding is likely due to communications norms within the organization, such that telephone tends to be used more frequently than email for the scenarios included in this study.

Next, I examined the differences in the perceptual measures of both how exhausting it is (how much effort is needed) to fake emotion over each medium and how difficult participants perceive it is to detect faked emotion over each medium. The graphical results of these measures are displayed in Figure 6, and the within subject t-tests for differences between each medium are displayed in Table 9. The analyses indicate that participants perceived significant differences
between all three types of communication media on both dimensions. Face-to-face is seen as most exhausting to fake emotions over and the easiest to detect inauthentic emotions. Email is seen as least exhausting to fake emotions over and the hardest to detect inauthentic emotions. Telephone falls between the other two media on both measures. In support of Hypothesis 1, these findings indicate that participants perceived that the least rich communication medium, email, would be most effective for hiding their underlying emotions. This perception matches the objective truth that facial and bodily nonverbal behaviors simply cannot be displayed (and therefore leaked) in less rich communication media. The findings also support Hypothesis 1 that less rich media is seen as less effortful for engaging in surface acting.

**Figure 6**

![Medium Perceptions](chart)

*Note.* Differences in perceptions between media were all significant at p < .001
To determine whether people’s perceptions of the media were driving their communication medium choice, I used t-tests to examine differences in perceptions between participants who chose email for the surface acting scenario versus those who chose to use telephone. If perceptions of the degree of effort were truly driving the choice of medium when surface acting predicted in Hypothesis 3, then it would be expected that participants who chose email for surface acting would perceive email to be significantly less effortful (exhausting) and easier to hide emotion within than those participants who chose telephone. I found that people who chose email (as opposed to those who chose telephone) rated face-to-face \( [t(232) = -2.070, p = 0.040] \) and telephone \( [t(232) = -2.496, p = 0.013] \) to be more exhausting to fake emotion over, but found no significant differences in regard to email \( [t(232) = 0.897, p = .371] \). I found that there were no significant differences between people who chose email as opposed to those who chose telephone in terms of how difficult they perceived it to be to detect inauthentic emotion over email, telephone, or face-to-face.

**TABLE 9**

<table>
<thead>
<tr>
<th>Pair</th>
<th>Perception</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>Exhausting to Fake Face - Telephone</td>
<td>.393</td>
<td>.888</td>
<td>6.771</td>
<td>233</td>
<td>.000</td>
</tr>
<tr>
<td>Pair 2</td>
<td>Exhausting to Fake Face - Email</td>
<td>1.385</td>
<td>1.667</td>
<td>12.707</td>
<td>233</td>
<td>.000</td>
</tr>
<tr>
<td>Pair 3</td>
<td>Exhausting to Fake Telephone - Email</td>
<td>.991</td>
<td>1.399</td>
<td>10.841</td>
<td>233</td>
<td>.000</td>
</tr>
<tr>
<td>Pair 4</td>
<td>Difficult to Detect Face - Phone</td>
<td>-.662</td>
<td>1.226</td>
<td>-8.263</td>
<td>233</td>
<td>.000</td>
</tr>
<tr>
<td>Pair 5</td>
<td>Difficult to Detect Face - Email</td>
<td>-1.457</td>
<td>1.775</td>
<td>-12.559</td>
<td>233</td>
<td>.000</td>
</tr>
<tr>
<td>Pair 6</td>
<td>Difficult to Detect Phone - Email</td>
<td>-.795</td>
<td>1.330</td>
<td>-9.142</td>
<td>233</td>
<td>.000</td>
</tr>
</tbody>
</table>
When focusing on just the perceptions of telephone and email (the available choices in this study), the results seem to be primarily driven by how exhausting it was perceived to be to fake emotions over telephone rather than the ease with which inauthentic emotions could be hidden. When the perception of how exhausting it was to fake emotions over telephone was added into a binary logistic regression to predict the surface acting medium choice, I found a significant relationship \([t(231) = 2.535, p = .012]\), such that perceptions of the effort needed to fake emotions over telephone significantly predicted the medium choice. The results remained comparably significant when controlling for age, and age did not significantly predict the communication medium choice for the surface acting scenario \([t(192) = -1.545, p = 0.124]\).

These findings support Hypothesis 3, in that perceived effort explains why participants chose less rich communication media to engage in surface acting.

At first glance, these findings seem to be contradictory to Study 1, in that participants rate email as being easier to hide underlying emotions. However, as noted in Hypotheses 4-6, the ease of hiding emotions may be offset by how communication recipients perceive differing media. Study 3 examines authenticity perceptions from the recipient’s perspective, to gauge whether there is a cost to utilizing less rich media.

**STUDY 3: AN ONLINE SCENARIO STUDY**

The goal of Study 3 was to replicate the findings from Study 1 and causally test whether message recipients infer differing degrees of authenticity based on the medium chosen (Hypothesis 5). Similar to Study 2, this study focused on the comparison between email and telephone usage and involved participants being put in the role of a worker who was evaluating a message that they received from a coworker, which appeared to be potentially inauthentic. In addition to testing the main effect of message-sender medium choice on recipient-perceptions of
inauthenticity, this study included the mediator of perceived effort to test for mediation (Hypothesis 6).

**Sample and Procedure**

Study 3 utilized an experiment with 198 participants (Mean\(_{\text{Age}}\) = 35.77, SD\(_{\text{Age}}\) = 12.8, 50.0% male) on Amazon Mechanical Turk. This sample was chosen to help increase the generalizability of the perceptual findings as the worker population on Amazon Mechanical Turk has been found to be significantly more diverse than normal university laboratories, as well as organizational samples, which suffer from selection-attraction-attrition biases (Buhrmester et al., 2011; Goodman et al., 2012; Landers & Behrend, 2015). Based on prior demographic estimates, approximately 70% of Amazon Turk workers have a separate full-time job outside of Amazon Turk, while approximately 30% of Amazon Turk workers indicate they are unemployed or have a separate part-time job (Paolacci et al., 2010).

At the beginning of the study, participants were told that they would be taking on the role of an employee who just got a promotion to manager, and would be evaluating a communication that they received from a coworker on their team, whom they would now be managing. Participants were told that the communication that they would be evaluating was based on a real business communication that was collected from a prior study. Participants were then randomly assigned to the telephone or email condition.

They read the following scenario, which was intended to create a situation in which they would be suspicious of the emotions being relayed by their future subordinate.

*You are an employee at a technology company named TechlySpace, which provides technology services to other companies. The company has locations all over the world, and the teams in the organization (including your own) include members from multiple offices who collaborate virtually. Your team members include Jake, Jen, Ryan, and Rachel; your team manager is Stephanie. Given your team members are all located*
in different offices, over the course of many projects, you have previously communicated frequently over both telephone and email with all of your team members and manager.

Stephanie told you yesterday that she would be retiring, and that given that you have been such a great worker in the last two years since you joined TechlySpace, you were going to be promoted into the manager role for your team. Today, Stephanie told the news to the team that you would now be their manager.

Jake is your teammate, and because of your promotion you will now be managing him. He has worked at TechlySpace for over 8 years (four times longer than you have worked there), so he is significantly more senior than you. **You know that he had also wanted this promotion.**

When Jake heard the news of your promotion, he decided to [call/email] you with the following message:

The scenario only varied in regard to whether the final sentence noted that the interaction involved a call or email. Participants then read the message below, which was surrounded by a bubble connected to either a picture of a telephone or computer, depending on their condition. The message in the phone condition was as pictured below. The email condition only varied in that instead of a picture of a telephone there was a picture of a computer.

![Image of phone]

I just heard the news about your promotion; I am very happy to hear you will be our manager. You really earned it. I am looking forward to seeing the direction you take our team.

After reading the message, participants completed scales measuring how authentic they perceived the message to be, their perceptions of the message-sender’s effort, and a manipulation check.
Measures

All items below were rated on a 1 = Strongly Disagree to 7 = Strongly Agree scale.

*Emotional Labor.* To measure recipient perceptions of authenticity, I adapted the same surface acting scale by Grandey (2003) that was utilized in Study 1 ($\alpha = 0.951$). Example items included “Jake faked a good mood” and “Jake put on a “mask” in order to display the emotions he needed for his job.”

*Perceived Effort.* To gauge the recipient’s perceptions of the sender’s effort, I utilized four items: “Jake put a lot of effort into this interaction,” “Jake did not take the easy path in this interaction,” “Jake did not put much effort into this interaction (reverse coded),” and “Jake took a shortcut in this interaction (reverse coded)” ($\alpha = 0.874$).

*Manipulation Check.* At the conclusion of the study, participants were asked to select how the message was relayed. The options were email, telephone, in-person, or I don’t remember.

Results and Discussion

Of the 198 participants, only three failed the manipulation check. The inclusion of these participants did not meaningfully alter any findings; they were included since, in communication contexts, it is plausible that, in some cases, interaction partners may forget how a message was relayed. As predicted, participants in the email condition felt that the sender was engaging in a significantly higher level of surface acting ($M_{\text{email}} = 4.25\ SD_{\text{email}} = 1.34$, $M_{\text{Telephone}} = 3.41$, $SD_{\text{Telephone}} = 1.34$; $t(196) = -4.277$, $p < .001$) and a significantly lower level of effort ($M_{\text{email}} = 3.92\ SD_{\text{email}} = 1.29$, $M_{\text{Telephone}} = 5.51$, $SD_{\text{Telephone}} = 1.01$; $t(196) = 9.617$, $p < .001$). In line with the findings in Study 1, these results further support Hypotheses 4 and 5, respectively.
To test mediation, I used the bias-corrected bootstrap method recommended by Preacher and Hayes (2004). Using 10,000 bootstraps, I found that the indirect mediation model 95% confidence interval for the indirect effect did not contain zero [0.429, 1.040], indicating that perceived effort mediated the relationship between communication medium and perceptions of surface acting [95% CI 0.429, 1.040]. In support of Hypothesis 6, this study shows that message recipients evaluate email communication as less authentic than telephone communication, purely due to the choice of medium, because email is seen as less effortful.

**GENERAL DISCUSSION**

The three studies in this chapter seek to broaden theory on emotional labor beyond face-to-face communication to apply to all modes of workplace interactions. Studies 1 and 2 provide evidence in support of Hypotheses 1-3 in that workers will be more inclined to choose less rich modes of communication for surface acting, as they perceive this medium to require the least amount of effort. These findings highlight a particularly meaningful limitation in existing emotional labor research, as, given the availability of virtual communication, workers will be inclined to shift away from the communication medium – face-to-face interaction – on which research and theory on emotional labor have focused. To begin to understand the ramifications of communication medium choice for emotional labor, Studies 1 and 3 examine the interactional outcomes of this choice. In support of Hypotheses 4-6, I show that workers make suboptimal communication medium decisions for engaging in surface acting. From an interactional perspective, workers perform far better when surface acting if they choose telephone interactions. Telephone appears to be the sweet spot for surface acting, in that it hides facial and bodily nonverbal behaviors, yet is still seen as a high effort and authentic mode of communication. Alternatively, email senders are punished in evaluations of authenticity due to
the apparent ease with which emails are created. Given the central importance of customer satisfaction in ensuring organizational profitability, it is vital to understand these and other consequences of employee communication decisions.

**Theoretical Contributions**

Emotional labor research and theory have previously been rooted in the study of face-to-face interactions. The central mediators of the interactional outcomes of emotional labor have involved the difficulty of suppressing nonverbal behaviors (Hochschild, 1983). In email, given that nonverbal behaviors are not displayed, these mediators become irrelevant. The findings in this chapter broaden the consideration of the mediators of emotional labor beyond regulating solely facial and bodily displays of emotion to other factors. In particular, I find that communication recipients make attributions regarding the amount of effort that a communicator put into an interaction based on the choice of medium irrespective of the message itself. Although I investigated this new mediator in the context of virtual communication, it is plausible that other factors could similarly alter perceptions of effort in face-to-face interactions. For instance, the degree to which a message is perceived to be thought out may alter perceptions of emotional labor. These types of factors could be particularly relevant to emotional labor in virtual communication, as email allows recipients to better gauge the amount of effort put into a message (e.g., whether or not there are typos).

In addition to contributing to theory on emotional labor, these studies add to research on virtual communication. To date, most studies on workplace communication technologies and emotion have focused on the accuracy of relaying emotions (Byron, 2008). The studies in this chapter take a more nuanced perspective by examining the perceptions of authenticity of emotions across communication media. They show that there are tradeoffs to moving to less rich
media. On the one hand, less rich media are better at hiding emotional leakage, but on the other, less rich media are perceived as being less authentic on the whole. To evidence these effects, I focus primarily on two consequences of medium richness, which I argue are important mechanisms for emotional labor outcomes: a) that less rich media are less effortful (given that fewer cues need to be monitored), and b) that less rich media result in less emotional leakage (given that fewer nonverbal behaviors are relayed). The consequences of these two mediators are likely to extend beyond interactions that only involve emotional labor. The degree of leakage of any kind of information, not necessarily just emotional information, may have substantial consequences for interactions such as negotiations where there are information asymmetries (Galin, Gross, & Gosalker, 2007; Moore, Kurtzberg, Thompson, & Morris, 1999; Stuhlmacher & Citera, 2005; Swaab, Galinsky, Medvec, & Diermeier, 2012). Further, in all types of work-based interactions, perceived effort is likely to be a determinant of both communicators’ choice of — and recipients’ reactions to — differing communication media. For instance, when there is a high potential reward-to-effort tradeoff, such as when interacting with a CEO, employees may be more likely to opt for richer communication.

The communication medium may also interact with the context to alter the reward-to-effort tradeoff with regard to medium choice. Notably, the Task-Media Fit Theory centers on the effectiveness of varying communication media for differing categories of tasks (Hollingshead, McGrath, & O'Connor, 1993; McGrath & Hollingshead, 1993; Mennecke, Valacich, & Wheeler, 2000). This theory argues that, in some cases, more rich media will be more effective and, in other cases, it will be less effective. Following the logic of this theory, only in certain contexts will choosing to put in more effort by choosing richer modes of communication be beneficial. The findings in this chapter suggest this relationship to be accurate, as in Study 1; putting in
greater effort by using face-to-face communication worsened outcomes as compared to utilizing less rich modes of communication.

Although my examination focused on the fixed characteristics of communication technology, virtual communication research on Channel Expansion Theory has evidenced that these characteristics may not truly be fixed (Carlson & Zmud, 1999; D'Urso & Rains, 2008). Channel Expansion Theory argues that as message recipients become more familiar with both an interaction mode and their partner, interactions become richer. For instance, there is often a great deal of information lost when interacting over email with a stranger. Yet, when interacting with a close coworker over email, it is easy to read between the lines and determine their underlying intentions and meanings (Carlson & Zmud, 1999). As this theory relates to this chapter’s findings on communication media and emotional labor, richness should be considered as a potentially more fluid factor that is not only impacted by the technology, but by the contextual factors, as well. Given existing findings on channel expansion, the outcomes observed in this study may differ based on relationship context as the differences between media may be muted. For example, two very close colleagues who have worked together for over a decade may be better able to read between the lines and detect inauthenticity, irrespective of medium choice. Additionally, when large amounts of information are available due to lengthy relationship and emotional histories, interaction partners may attend less to ancillary cues such as medium choice to infer meaning from a message.

An area in which my findings are in direct contrast to research on virtual communication is in regard to deception or lie detection. Prior research has found that rates of lie detection are stable across media, as people are generally insensitive to lying (George, Marett, & Tilley, 2004; Park & Levine, 2015). However, surface acting, a type of deception, can often be detected in
face-to-face interactions as observed both in Study 1 and prior research (Grandey & Gabriel, 2015; Groth et al., 2009). Alternatively, I find in Study 1 that not only is surface acting generally undetected in telephone or email interactions by parents, but that surface acting in telephone interactions has the reverse effect; the more one surface acts via telephone, the more authentic he/she seems. This finding that surface acting in telephone actually increases authenticity is a surprising one. A plausible explanation for this effect is that surface actors are likely to exert more effort in displaying emotions, at least as compared to those who put in minimal or no effort to do so. Telephone might allow the degree of effort to be more apparent (i.e., it can be heard through tone of voice), but it masks the inauthenticity that is often detected with such effort due to the removal of facial and bodily cues. From these findings, it appears that effort is a key determinant of perceptions of emotional authenticity/deception. However, effort may be less relevant to more factual categories of deception. Consequently, the logic derived from the findings in this chapter show that emotional deception may be a meaningfully different process than factual deceptions.

**Limitations and Future Directions**

Although the studies in this chapter provide consistent results regarding the impact of emotional labor in virtual modes of interaction, there is still much to be explored in this domain. One of the more potentially fruitful avenues for further exploration would involve testing other modes of communication beyond email and telephone. Organizations are increasingly utilizing new modes of communication such as instant messaging, and it is unclear exactly where these media will fall in relationship to the modes explored in this chapter. For instance, will instant messaging be perceived by communicators and recipients as identical to email since both are
text-based, less authentic than email as it may be seen as lower effort, or more authentic than email because it is done in real-time?

In Study 3, I focused on perceived effort as the sole cue that recipients evaluate when reacting to communication medium choice. Yet it is quite possible the other attributions may be made based on communication medium choice, which could also explain my findings. For instance, choosing email may also be associated with perceived busyness of the message-sender. In the context of emotional labor, the perception of perceived busyness may be used to infer that the sender was not fully focused on the emotions communicated and thus was being inauthentic. Additionally, there are medium-specific cues such as time to reply and time at which an email was sent (e.g., during the workday or late at night), which are often used by senders to make inferences (Barley, Meyerson, & Grodal, 2011; Mazmanian et al., 2013; Walther & Tidwell, 1995). Future research should seek to explore the inferences that are made by message recipients based on communication medium choice, not only within the domain of emotional labor, but in other types of work interactions, as well.

Lastly, one assumption in this chapter was that email will be the least depleting medium to utilize. This assumption was supported by measuring both sender (Study 2) and recipient (Study 3) perceptions. However, email differs from face-to-face and telephone interactions in that email is rehearsable. Whereas telephone interactions are fleeting and exist only for the minutes that the conversation is occurring, hours may be spent crafting a single email, and then a permanent record of that email remains after it is sent. It is plausible that, in some contexts, the extra time that could be devoted to email (both in crafting and re-reviewing a message after it is sent) may actually result in its having greater negative intrapersonal effects than the other modes of communication. For instance, when writing an email to an unimportant subordinate, email
may truly be the least effortful medium, but when writing an important email to a supervisor, an employee might be tempted to spend over an hour perfecting a single message that could have been relayed face-to-face in a manner of minutes. Chapter 3 in this dissertation begins to explore the phenomenon of this type of email crafting.

**Practical Implications**

The studies in this chapter point to practical recommendations for both employees and managers. First, the studies provide managers with insight regarding employee communication habits. If managers realize that subordinates tend to shift to less rich modes of communication when surface acting, they can use this information to better detect the behavior and potentially correct for it when needed.

Second, the studies provide actionable steps for employees who know they need to display an emotion that they might not be authentically feeling. As opposed to oft-cited advice (Byron, 2008; Kruger et al., 2005; Maruping & Agarwal, 2004), face-to-face interactions may not always be best when dealing with emotions, particularly if those emotions are inauthentic. Whereas face-to-face communication may be more effective at accurately communicating specific types of emotions, so too is it more accurate at communicating the authenticity of the emotion. As long as the type of emotion can be clearly relayed, possibly even by simply stating the emotion explicitly (e.g., “I am so happy that…”), a less rich medium may be more effective because it only displays what the sender intends. Similarly, given the findings of these studies, employees should resist going for the “easy” route out by choosing email when needing to display inauthentic emotion. Accordingly, workers are best served by choosing a middle ground of medium richness whereby emotional leakage is hidden, but they are not perceived as taking the easy way out.
Conclusion

As workplaces continue to become increasing globally dispersed, understanding the role that communication technologies play in mediating interactions has become even more vital. Going forward, it is not only important to examine new technologies, but also to explore the new ways in which older technologies are being adapted. Only a couple of decades ago, email was limited to occasional workplace correspondence; now, it has become an integral part of everyday work and social communication. It is unclear how workplace interactions will change in the coming decades, but we must continue to update and adapt theories of workplace communication to ensure that this research stays relevant to contemporary organizations.
Chapter 3: Overcrafting of Business Correspondence: The Effectiveness, Productivity, and Affective Consequences of Impression Management in Text-Based Communication

Andrew Brodsky

ABSTRACT

Email has become a fundamental component of work. Email and other text-based communication media are distinct from other modes of interaction because they can be edited and are permanent, as opposed to the fleeting nature of face-to-face and audio interactions in which most existing theories in Organizational Behavior are seated. While significant attention has been devoted to the outcomes of using email, little is known about the actual process of writing those emails. In an experience sampling study, which captured email communication in real time, I find that workers will often engage in overcrafting of email, whereby workers spend extra time crafting messages to the detriment of their productivity, message effectiveness, and well-being. I leverage the results of this study to expand theory on impression management to better incorporate both the communication context and the intrapersonal consequences of impression management.
INTRODUCTION

Survey estimates indicate that knowledge workers spend 28% of their workday emailing (Chui et al., 2012), and 37% of employees check their email almost constantly during the workday (Madden & Jones, 2008). Significant attention has been devoted to the outcomes of email messages (Byron, 2008; Derks et al., 2008; Kruger et al., 2005), but, as yet, little is known about the process of crafting emails and the impact of this process on employees. Understanding the more general process of crafting workplace communication, irrespective of the medium, has long been of interest to both scholars and practitioners due to the major impact these processes can have on organizational outcomes. For example, scholars have noted that impression management strategies can result in workers being evaluated more favorably, which in turn benefits their organizations (Bolino et al., 2015; Higgins, Judge, & Ferris, 2003; Munyon et al., 2015), but that they can also harm workers through evaluations of decreased authenticity (Eastman, 1994; Jones, 1990; Leary, 1995).

Impression management is often defined as “any behavior by a person that has the purpose of controlling or manipulating the attributions and impressions formed of that person by others” (Tedeschi & Riess, 1981). However, recent reviews of this domain have lamented the lack of research on both the intrapersonal consequences of impression management and the impact of impression management in virtual communication (Bolino et al., 2015). These two topics are particularly well-suited to being explored simultaneously given the editable nature of email (Dennis & Valacich, 1999). Whereas impression management in face-to-face interaction is fleeting and bounded by the time of the interaction itself, the amount of time spent engaging in impression management in email is fully self-determined. If so motivated, an employee could potentially spend hours crafting a single email if she deems it worthwhile to advancing her future
goals. Beyond just providing the ability to spend greater amounts of time engaging in impression management, email is likely to provide greater motivation for workers to engage in this behavior, given its permanent nature (Dennis & Valacich, 1999). Although there are generally no lasting records of face-to-face interactions, emails can have a permanent record and can be easily forwarded to a supervisor or posted publicly, regardless of the sender’s intent, thereby increasing the importance of communications. One of the most infamous examples of a consequence of this permanence is the Enron Corpus, the dataset of emails from Enron executives, which was utilized by law enforcement and now is a source of data for research on many topics (Fragale et al., 2012; Klimt & Yang, 2004). The added ability and motivation provided by email for limitless message crafting could easily magnify the intrapersonal effects of impression management. In this vein, email crafting has been categorized as a type of broader impression management, in which senders are concerned with ensuring that their message accurately creates the desired impression, not just in regard to the sender, but also the information being relayed (Walther, 1993, 2007).

In this chapter, I examine the intrapersonal, interpersonal, and productivity consequences of impression management in email. To do so, I utilize an experience sampling study of salespeople to capture worker communication in real time. This study develops theory and provides insight into the tradeoffs resulting from devoting additional time to impression management. I conclude the chapter by discussing the extensions of this study’s findings to broader theory on impression management.

**BACKGROUND AND HYPOTHESES**

Due to increasing globalization, greater usage of freelancers, and increasing utilization of flexible work arrangements, virtual communication has become a norm in organizations (Bailey,
Leonardi, & Barley, 2012; Jarvenpaa & Leidner, 1998; Martins et al., 2004). In some regards, workers see this transition as a welcome change; notably, in-person business meetings have been often maligned in popular business press because they are perceived to be highly unproductive, distracting, stressful, and frustrating for the people who engage in them (Baer, 2014; Silverman, 2009). Given the favorable view of email, at least as it relates to replacing meetings, the question then arises as to whether the ease of editing email offers a panacea for such interactional pressures or whether there may be overlooked drawbacks to this medium. The answer to this question offers the opportunity for both new theory and practical advice regarding impression management and optimal communication strategies.

Research on the impact of email on the communicator has focused primarily on the consequences of broader email usage. Email has provided recipients with many benefits, such as allowing employees to engage with colleagues from across the world (Jarvenpaa & Leidner, 1998; Martins et al., 2004), increasing worker efficiency (Middleton & Cukier, 2006), and reducing work-life conflicts (Golden & Geisler, 2007; Hislop & Axtell, 2011). Alternatively, email has been shown to have costs to the communicator since this medium can make it easier for work to spill over into non-work time (Chesley, 2005; Mazmanian et al., 2013; Murray & Rostis, 2007), which creates feelings of stress due to increased work quantity (Bälter, 2000; Bellotti, Ducheneaut, Howard, Smith, & Grinter, 2005) and interrupted concentration (González & Mark, 2004; Jackson, Dawson, & Wilson, 2001, 2003). One common characteristic of all of these benefits and costs is that they center on how broader email usage generally interacts with other aspects of work (e.g., interactions with overall workload, work-life balance, and ongoing concentration). This existing research gives little consideration to the cognitive-emotional process of actually writing specific emails to achieve an intended goal.
Impression Management in Email

Email and other text-based communication media are distinct from all other modes of interaction. The rehearsable and asynchronous nature of email means that it can be reread and edited prior to sending it (Dennis & Valacich, 1999). In face-to-face and audio interactions, once something is said, it can never be taken back. Similarly, face-to-face and audio interactions severely limit communicators’ ability to think during the relaying of a message, as pauses in synchronous communication are perceived as awkward and rarely last for longer than a second (Campione & Véronis, 2002; McLaughlin & Cody, 1982; Shigemitsu, 2005). Together, these factors lead to potentially competing outcomes: a greater ability to edit may ease the burden of impression management, or it could potentially increase its burden by lengthening the process of — and creating greater opportunities for — engaging in impression management.

The more permanent nature of email means that the stakes of communication are higher. A recipient not only has permanent access to the communication, but that recipient could easily forward the communication to unintended parties such as human resources or higher level management (Myers, 2007). Amplifying the potential costs of a poorly written email is that email is widely believed to be emotionally ambiguous and frequently misinterpreted (Byron, 2008). In email, emotion and conversational subtleties such as sarcasm and humor are often lost due to a lack of physical nonverbal behaviors, even in cases where people are strongly incentivized to accurately transmit this kind of social information (Kruger et al., 2005). Consequently, the potentially ambiguous nature of text-based communication, combined with the higher costs of errors in this medium, creates a situation in which communicators in email are likely to feel the need to devote excess time to crafting them to avoid costly misinterpretations.
Walther (2007) first embedded this behavior of message crafting (i.e., the time devoted to creating, editing, and sending a message) in the impression management literature by noting that this process is driven by a desire to ensure that messages sent create a positive impression of the sender through relaying information as the sender intends. In studying high school students, he further found that message crafting was most likely to occur when recipients were seen as desirable or powerful to the sender (e.g., males tended to message craft more when sending messages to females) (Walther, 1993, 2007). Similar to these prior analyses, I focus on message crafting as a broad category of impression management in which the goal is to ensure that a message relays the desired information and creates the desired impression of the sender.

Although scholars have begun to unearth some of the antecedents of this behavior, the consequences of such message crafting have been largely overlooked.

**Intrapersonal Consequences**

Although research on impression management is lacking in regard to its intrapersonal outcomes (Bolino et al., 2015), inferences can be drawn from related domains as to the potential intrapersonal costs of this behavior. Generally, when discussing intrapersonal costs, researchers primarily examine two categories of consequences: cognitive and affective consequences (Evans & Stanovich, 2013; Lazarus, 1982; Schwarz, 2000).

As it relates to the cognitive side of impression management, research on self-regulation can provide insight. Although the linkage tends not to be raised in the literature on impression management, it can be considered a type of self-regulatory behavior, as impression management involves workers monitoring and altering their behavior in order to achieve their goals. This cognitive effort of monitoring and altering one’s own behavior has been tied to depletion (Baumeister & Heatherton, 1996). Relatedly, one particularly relevant subset of research on self-
regulation, that of emotional labor, shows that the process of workers altering their emotional displays in interactions to achieve a desired outcome can be extraordinarily exhausting and lead to burnout (Brotheridge & Grandey, 2002; Grandey, 2003). Self-regulation is considered by many scholars to be a type of resource, and the more time and effort that goes into self-regulating, the more depleted an individual becomes (Baumeister & Heatherton, 1996; Muraven & Baumeister, 2000). Accordingly, I predict that there will be a similar positive relationship between time spent engaging in impression management and depletion (i.e., exhaustion).

As this relates directly to email, the most basic form of this hypothesis would be that the greater amount of time spent crafting an email, or average time spent per character in the message, the more depleted the sender will become. I note that time spent email crafting (time per character) is not simply typing speed, but rather time spent brainstorming (i.e., planning) and editing messages, in addition to typing. Given that communicating itself is not exhausting, it is also important to consider the underlying mechanism of impression management that potentially makes email crafting so depleting. In the context of email, both brainstorming and editing can be considered as pure types of impression management, as they solely involve putting conscious effort into ensuring that an email message achieves the sender’s goals. Alternatively, the time spent typing the message itself (irrespective of brainstorming and editing) may not actually involve any impression management (e.g., in cases where a sender does not care about the outcome of a message). Even when typing does involve some degree of impression management, it is less likely to be as strong, or pure, a category of impression management; typing involves a mixture of processes, including simply relaying information and figuring out the location of the requisite keys on the keyboard, which will consequently make impression management less of a central focus. Accordingly, using the combined proportion of time spent brainstorming and
editing a message (as compared to typing it) as a proxy for the time spent specifically engaging in impression management, I hypothesize that the time spent editing and brainstorming will mediate the effect of time spent email crafting on message-sender depletion.

*Hypothesis 1: The greater the amount of time spent crafting a specific email, the more depleted the message-sender will become.*

*Hypothesis 2: The combined proportion of time spent brainstorming and editing a message will mediate the effect of time spent email crafting on message-sender depletion.*

Concerning the emotional outcomes of impression management in email, the bodies of literature on two emotions prominent in high stakes interactions, anxiety and frustration, are of central importance. Brooks and Schweitzer (2011) define anxiety as “a state of distress and/or physiological arousal in reaction to stimuli including novel situations and the potential for undesirable outcomes” (p. 44). As previously noted, email is ripe for undesirable outcomes given its permanent nature and the propensity for messages in this medium to be misinterpreted (Byron, 2008; Dennis & Valacich, 1999). Given these potentially undesirable outcomes, it seems likely that crafting emails, particularly when an individual wishes to achieve a goal through the communication, will cause anxiety. I hypothesize that the more time that an individual spends crafting a message, and thereby considering the potential costs of the message not being effective, the more anxiety will be induced. Similar to Hypotheses 1 and 2, given that this effect will be driven by the process of impression management, I expect it to also be mediated by the proportion of time spent editing and brainstorming.

*Hypothesis 3: The greater the amount of time spent crafting a specific email, the more anxious the message-sender will become.*
Hypothesis 4: The combined proportion of time spent brainstorming and editing a message will mediate the effect of time spent email crafting on message-sender anxiety.

Email is not only likely to make undesirable outcomes salient, but it is also likely to bring attention potential barriers to desirable outcomes. Frustration is likely to result from this latter effect. Spector (1978) defined frustration as “… both the interference with goal attainment or goal oriented activity and the interference with goal maintenance” (p. 816). Email can block goal attainment due to its lack of richness and potential for information being lost (Daft & Lengel, 1986; Dennis & Valacich, 1999). For instance, if a salesman is attempting to express humor via email to a customer, then that goal may be counteracted, because humor in email is often mistaken for sarcasm (Kruger et al., 2005). Further exacerbating this matter is that given that emails are editable and asynchronous, message-senders often spend significant time deleting and rewriting prior text before ever receiving feedback (a reply message) about whether these changes are improving their odds of achieving their goal. Accordingly, this lack of objective progress (due to needing to redo prior work) and subjective progress (due to not receiving immediate feedback) is likely to further increase the degree of frustration as more time is spent message crafting. Once again, I hypothesize that the primary mechanism behind this effect is the time spent specifically engaging in impression management; as individuals are more focused on perfecting their message and avoiding the blockages and sideways progress that occur in the brainstorming and editing phases, they will become more frustrated. Consequently, I predict that the proportion of time spent editing and brainstorming email messages will mediate the effect between time spent message crafting and frustration.

Hypothesis 5: The greater the amount of time spent crafting a specific email, the more frustrated the message-sender will become.
**Hypothesis 6:** The combined proportion of time spent brainstorming and editing a message will mediate the effect of time spent email crafting on message-sender frustration.

**Productivity and Interpersonal Consequences**

Given the hypothesized intrapersonal costs of engaging in impression management over email, the question then arises as to whether there is actually any benefit to engaging in this type of impression management in email. In this regard, I propose that there will be an inverted-U curvilinear relationship between time spent crafting an email and email effectiveness. I define message effectiveness as the degree to which the message helps the sender reach his or her intended goals for the message. Rather intuitively, there is evidence to suggest that poorly written emails result in senders being perceived as less intelligent, conscientious, and trustworthy (Vignovic & Thompson, 2010). This line of logic would indicate that there should be a positive relationship between time spent perfecting messages and their interpersonal outcomes. However, as has been shown in research on work pacing, spending additional time on a task has marginally decreasing performance benefits that plateau off (Moore & Tenney, 2012). Accordingly, spending additional time crafting messages is likely to only provide benefits up to a point. Beyond this point, I hypothesize that this relationship will turn negative.

A number of studies have shown that the negative cognitive and affective consequences predicted in Hypotheses 1-6 can hamper performance. For instance, anxiety has been shown to decrease perspective taking, worsen job performance, and reduce negotiations gains (Brooks, 2014; Brooks & Schweitzer, 2011; Todd, Forstmann, Burgmer, Brooks, & Galinsky, 2015). Similarly, depletion undermines workers’ ability to focus, which consequently impedes effective
Not only are these incidental intrapersonal consequences of impression management likely to hamper interpersonal message effectiveness, but the process of impression management itself may distract message-senders from their recipients. Impression management in itself is a self-focused task. The more focused an individual is on himself and his goals, the less likely he is to take the perspective of others, in particular, a message recipient (Hoover, Wood, & Knowles, 1983; Wegner & Giuliano, 1982). This lack of perspective-taking is likely to be amplified by the anxiety experienced by the message crafter (Todd et al., 2015). As communicators become more cognitively and emotionally overwhelmed and less attentive to their communication partners, message effectiveness is likely to suffer. Accordingly, although I predict that there are gains for modest amounts of time spent crafting messages, as additional time is devoted to message crafting, I predict that the relationship between time and message effectiveness will turn negative. Again, I predict that this effect will not be driven by the time spent actually relaying a message (typing), but rather the excessive time that is devoted to impression management. I predict that the inverted-U relationship between the time spent crafting an email and the effectiveness of the message will be mediated by the proportion of the time spent brainstorming and editing.

_Hypothesis 7: There will be an inverted-U relationship between the time spent crafting an email and the effectiveness of the message._

_Hypothesis 8: The combined proportion of time spent brainstorming and editing a message will mediate the effect of time spent email crafting on message-sender frustration._
I refer to the downward slope in the right domain of this curvilinear process as *overcrafting*, when employees devote excess time to crafting a message to the point at which both the communicator’s interpersonal and intrapersonal outcomes are worse. It is plausible that workers may unwittingly make this suboptimal decision for two reasons. First, when individuals are emotional and cognitively overwhelmed, they are less likely to make rational decisions for themselves (Baumeister & Heatherton, 1996; Loewenstein, 1996; Loewenstein, 2005). Second, people are highly overconfident about their ability to effectively communicate via email (Kruger et al., 2005), so they are unlikely to accurately gauge their lack of communication efficacy in this domain.

**AN EXPERIENCE SAMPLING STUDY**

To test Hypotheses 1-8, I utilized an experience sampling study to capture the crafting process of workplace emails in real time. To gauge participants’ experiences of crafting emails, they were asked to complete brief surveys immediately before and after creating and sending work emails. Further, participants were asked to blind copy (using Bcc) the researcher on the email itself and were asked to evaluate the outcomes of their emails two weeks after the completion of the main segment of the study. The resulting dataset included 425 emails from 125 workers.

**Sample and Procedures**

Participants were 125 users ($M_{age} = 48.34$, $SD_{age} = 12.30$, 52.0% male) of an email technology application, BombBomb, which provides users with supplemental email tools such as tracking whether an email was opened by the recipient. Given the nature of the platform’s customer base, 80% of participants were in a sales or real estate agent role; 20% were in marketing roles; 22% were managers; 15% were consultants; and 14% noted that they were also
in other roles, with the percentages totaling more than 100% because participants could select multiple roles.

After agreeing to participate in the study, during a two-week period, participants were asked to complete a brief pre-message survey immediately before creating an email that they would be sending to a single individual recipient as part of their work. They were asked to complete the sets of surveys between five and ten times over the course of the two weeks. The pre-message survey contained questions regarding the power of the email recipient relative to the sender, and the number of interactions that the sender has previously had with the recipient. At the end of the pre-message survey, participants were instructed to create the email and Bcc the researcher a copy of the email when it was sent. Immediately after completing the email, participants were asked to complete a post-message survey. In the post-message survey, participants rated how they allocated time to creating the message (total time spent and percent brainstorming/typing/editing/other), depletion, anxiety, frustration, and how effective they expected their message would be. Approximately two weeks following the conclusion of the experience sampling component of the study, participants were given a final survey. This survey embedded copies of the messages that participants sent to the researcher, and participants were asked to rate each message individually in terms of how effective it ended up being.

Multiple strategies were used to limit the likelihood of common method biases and social desirability effects. The analyses utilized data collected in four different manners or time points (the pre-message survey, the character length of the forwarded email, the post-message survey, and the final survey delayed by two weeks). Additionally, in following best practices for survey instructions, participants were informed in detail of the privacy protections in the study to ensure
confidentiality; further, they were told that there were no right or wrong answers to the survey questions (Podsakoff et al., 2003; Tangirala, Green, & Ramanujam, 2007).

**Measures**

Unless otherwise noted, all scales utilize 1 = strongly disagree to 7 = strongly agree scale anchors.

*Relative Power.* In the pre-message survey, the degree to which the participant perceived the message recipient to be more powerful than himself/herself was measured using three items adapted from Chen, Langner, and Mednoz-Denton’s (2009) dispositional power scale (α = .774). I coded the items such that a higher score indicated that the recipient had higher relative power to the participant. The three items included “In my relationship with the person I am messaging, I think I have a great deal of power (reverse coded);” “In my relationship with the person I am messaging, if I want to, I get to make the decisions, (reverse coded);” and “In my relationship with the person I am messaging, my wishes don’t carry that much weight.”

*Interaction Count.* In the pre-message survey, the number of prior interactions with the recipient was measured by asking “Which best describes the number of past interactions that you have had with this person.” Participants could choose among six options ranging from “This is my first correspondence with them” to “I have had a large number of interactions with them (more than 25).”

*Crafting Time.* Time spent crafting the writing was gauged with an open-ended question in the post-message survey which asked “Approximately, how many minutes in total did you spend working on creating your message (including brainstorming, typing/recording, editing, and any other message-related tasks)? Please do not count time that you spent answering the survey
questions.” Given that I defined message crafting time as the time spent writing a message per character, message length was separately needed as a control variable.

*Message Length.* The control variable of message length was measured as the number of characters that were included in the email that was Bcc’ed to the researcher between the pre- and post-message surveys. Email signatures and text from prior correspondence (included as the result of replying to or forwarding a prior message) were excluded.

*Proportion of Time Spent Brainstorming/Editing.* In the post-message survey, participants had to select what percent of time they separately allocated to brainstorming, typing, editing, and other. The other category had a text input option. In most cases, participants noted that the other involved logistical tasks such as attaching a file or looking up an email address. Given that my interest was in capturing a proxy of pure impression management, I combined the percent of time brainstorming and editing into a single score. The proportion of time spent typing and other were not included in this measure because they were more mechanical and did not necessarily involve the conscious impression management that is associated with brainstorming and editing.

*Depletion.* In the post-message survey, the degree to which the participant felt depleted was measured using four items from Twenge, Muraven, and Tice’s (2004) depletion scale ($\alpha = .892$). The four items were “I feel mentally exhausted;” “I feel drained;” “I feel worn out;” and “I have lots of energy (reverse coded).”

*Anxiety.* In the post-message survey, the degree to which the participant felt anxious was measured using four items adapted from Brooks and Schwietzer’s (2011) anxiety scale ($\alpha = .953$). The four items were “I feel anxious;” “I feel apprehensive;” “I feel worried;” and “I feel nervous.”
Frustration. In the post-message survey, the degree to which the participant felt frustrated was measured using two items adapted from Peters, O’Connor, and Rudolf’s (1980) frustration scale (\(\alpha = .437\)). The alpha value was potentially low in this item given that it only utilized two items, one of which was reverse-coded. Given this scale suffered from low reliability, the results of this measure should be taken with caution. However, I decided to still include this measure in the analyses as it was part of the planned analyses. The two items were “Trying to create the message was a very frustrating experience” and “Overall, I experienced very little frustration creating the message (reverse coded).” The third item from the original scale was not included in this study because it was not relevant in this context.

Message Effectiveness. Message effectiveness was measured at two points in time using three items. Final (actual) message effectiveness, the dependent variable, was measured approximately two weeks after participants completed the main part of the experience sampling study (\(\alpha = .967\)). A measure of predicted message effectiveness was included in the immediate post-message survey (\(\alpha = 907\)) to utilize as a control variable. Predicated message effectiveness was an important control variable to include because it eliminates a host of potential confounds associated with message crafting and message outcomes. For instance, having to send an email that a worker knows will be less effective (e.g., because a coworker is more disagreeable) may have separate direct effects on time spent crafting (in an attempt to avoid sending an ineffective message), anxiety (due to the increased likelihood of the email failing), and actual message effectiveness (predicted effectiveness is likely to be at least somewhat accurate). Without some kind of control, an unmeasured factor could make it appear as if the constructs had the hypothesized relationships while, in reality, the unmeasured factor was the driving factor between these relationships. By controlling for predicted effectiveness, this entire category of
potential confounds is eliminated as potential alternative explanations for the relationship between time spent message crafting and actual message effectiveness.

Only self-ratings of effectiveness were utilized for two reasons. First, message senders are in the best position to evaluate if their message actually achieved their intended goals; alternatively, message recipients may be wholly unaware of a sender’s goals. Second, due to limitations associated with the field site, collecting recipient ratings of message effectiveness would have been implausible, and even if it had been plausible, would have resulted in a substantial self-selection bias for this dependent variable (due to recipients being more likely to take the time for a survey on behalf of the sender if they liked that sender). For predicted [final] message effectiveness the items were “I expect my message will be [My message was] effective;” “I expect to obtain [I obtained] my intended goal with this message;” and “I expect to get what I want [I got what I wanted] from the message.”

Results and Discussion

A total of 421 emails collected during the study averaged a total of 3.3 emails per participant$^4$. The emails varied highly both in terms of whether the recipient was more powerful (Mean$_{RelativePower} = 3.93$, SD = 1.44) and the number of prior interactions (Mean$_{InteractionCount} = 4.02$, SD = 1.81); there were responses across the entire range of selection choices for these constructs. Participants spent between 30 seconds and 30 minutes crafting emails, with a mean time of 5.4 minutes. When only considering the length of messages, this equated to participants being able to type 156.4 characters per minute (SD = 123.6 characters per minute). Considering that some studies have shown that an average computer user can type 375 characters per minute, participants in this study were clearly allocating time to perfecting their messages beyond simply

\footnote{Four emails were removed due to participants having to spend between 3 and 11 standard deviations above the mean time crafting the messages. All other messages were within 3 standard deviations of the mean crafting time.}
typing them. Participants who were one standard deviation below the mean for crafting time (32.8 characters per minute) were over 11 times slower than prior estimates of average typing speed (Arif & Stuerzlinger, 2009). The correlation table for the collected variables is displayed in Table 10; however, it should be noted that these correlations are not corrected for clustering of emails within individuals.

Interestingly, predicted effectiveness was negatively correlated with anxiety and frustration, but not crafting time. This may be due to the fact that there is reverse causality; when individuals are anxious or frustrated, they may predict lower effectiveness. Although the target of this study was to examine the consequences of crafting time, these results provide insight into potential antecedents of crafting time, as well (for review, see Walther, 2007). The existence of these potential relationships strengthens the rationale for using predicted effectiveness as a control variable, as it will help eliminate the possibility of reverse causation between felt post-message emotions and time spent crafting.

**Table 10: Correlation Table**

<table>
<thead>
<tr>
<th></th>
<th>Crafting Time</th>
<th>Message Length</th>
<th>Depletion</th>
<th>Anxiety</th>
<th>Frustration</th>
<th>Actual Effectiveness</th>
<th>Predicted Effectiveness</th>
<th>Number of Prior Interactions</th>
<th>Relative Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Length</td>
<td>.571**</td>
<td>.112*</td>
<td>.156**</td>
<td>.189**</td>
<td>.125*</td>
<td>-.024</td>
<td>-0.001</td>
<td>-.01</td>
<td>.260**</td>
</tr>
<tr>
<td>Depletion</td>
<td>.041</td>
<td>.056</td>
<td>.479**</td>
<td>.310**</td>
<td>.041</td>
<td>-.255**</td>
<td>-.257**</td>
<td>-.208</td>
<td>.012</td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frustration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual Effectiveness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predicted Effectiveness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Prior Interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative Power</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of Time Spent Brainstorming &amp; Editing</td>
<td>.207**</td>
<td>.002</td>
<td>.179**</td>
<td>.104**</td>
<td>-.08</td>
<td>-.289**</td>
<td>-.367**</td>
<td>-.415**</td>
<td>.089</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).**

* . Correlation is significant at the 0.05 level (2-tailed).
Given that messages were embedded within individuals, I utilized hierarchical linear modeling within HLM 7.01 with full information maximum likelihood estimation and robust standard errors to account for the nested nature of the data. For all analyses, I examined the impact of time spent crafting the message, controlling for the length of the message, on the relevant dependent variables (anxiety, frustration, depletion, and final message effectiveness). In addition to running the basic model with no additional controls, I separately ran models controlling for the relative power of the message recipient, the number of interactions with the recipient, and participants’ predictions of how effective their message would be. All predictor variables were grand-mean centered and all random slopes and intercepts were included in the model. The intrapersonal outcome results are displayed in Table 11, and the message effectiveness results are displayed in Table 12.

**Table 11: Intrapersonal Outcomes of Message Crafting**

<table>
<thead>
<tr>
<th></th>
<th>Depletion</th>
<th>Anxiety</th>
<th>Frustration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 3</td>
</tr>
<tr>
<td>Intercept</td>
<td>2.117 (0.075)***</td>
<td>2.077 (0.069)***</td>
<td>1.805 (0.08)***</td>
</tr>
<tr>
<td>Crafting Time</td>
<td>0.044 (0.014)**</td>
<td>0.035 (0.012)**</td>
<td>0.063 (0.016)***</td>
</tr>
<tr>
<td>Message Length</td>
<td>&lt;0.001 (&lt;0.001) &lt;0.001 (&lt;0.001)</td>
<td>&lt;0.001 (&lt;0.001) &lt;0.001 (&lt;0.001)</td>
<td>&lt;0.001 (&lt;0.001) &lt;0.001 (&lt;0.001)</td>
</tr>
<tr>
<td>Predicted Effectiveness</td>
<td>-0.224 (0.065)***</td>
<td>-0.267 (0.059)***</td>
<td>-0.389 (0.063)***</td>
</tr>
<tr>
<td>Interaction Count</td>
<td>0.053 (0.032)**†</td>
<td>-0.025 (0.027)</td>
<td>-0.01 (0.026)</td>
</tr>
<tr>
<td>Relative Power</td>
<td>0.107 (0.04)**</td>
<td>0.052 (0.036)</td>
<td>-0.132 (0.03)***</td>
</tr>
</tbody>
</table>

†p < 0.1, *p < 0.5, **p < 0.01, ***p < 0.001

*Note.* The multilevel model coefficients are reported, with the robust standard errors in parentheses.

As can be observed in Models 1-6, time spent crafting emails controlling for the email length positively predicted depletion, anxiety, and frustration. These findings were robust to inclusion of the control variables, and therefore support Hypotheses 1, 3, and 5, respectively.
To test the curvilinear effect of email crafting time on email crafting effectiveness from Hypothesis 7 in Models 7 and 8, I separately test the independent linear effect of email crafting time (Model 7) against the model with the addition of the quadratic term for the time spent message crafting (Model 8). In contrast to Hypothesis 7, not only do I find that the model with the added quadratic term is not notably better than the model with the solely linear term, but that it actually worsened and increased the deviance of the model. Accordingly, I only examined the linear effect in Model 9. Interestingly, as can be observed in Models 7 and 9, there is only a robust negative linear effect for the time spent crafting emails controlling for the email length in predicting email effectiveness. The more time spent crafting emails, the worse their outcomes.

There are multiple potential reasons why the data may not have contained a quadratic effect. The first explanation is that the data may have had a type of restricted range, whereby the professionals in the study were generally only spend more time crafting than is optimal. From a
practical perspective, this seems logical, as experienced professionals who create rushed and highly ineffective emails are likely to learn the need to improve their messaging quickly or they will be fired. Consequently, there may only be a small subset of interactions in the workplace where undercrafted emails may be observed (e.g., for very novice employees). Alternatively, it is possible that there is no quadratic effect of time on performance at all because the negative ramifications of spending any time crafting messages (e.g., anxiety, depletion, and lack of perspective taking) may overwhelm any potential benefits. This is entirely plausible since, given the lack of richness in email, information is often lost on the recipient (Daft & Lengel, 1986; Dennis & Valacich, 1999), which may cancel out most benefits to crafting emails. Further, given that by definition impression management will be directed to individuals with some level of power — and powerful individuals are rushed and less likely to attend to subtle cues that may be altered during the crafting process (Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008; Galinsky, Magee, Inesi, & Gruenfeld, 2006; Magee & Galinsky, 2008) — the value of message crafting may be mitigated.

To test the indirect paths as proposed by Hypotheses, 2, 4, 6, and 8, I utilized unconflated 1-1-1 mediation models in MPlus version 7.31 as recommended by Preacher, Zyphur and Zhang (2010). To test Hypothesis 8, given the lack of evidence for a quadratic effect, I examined the linear effect of message crafting time on message effectiveness. In support of Hypothesis 8, the 95% confidence intervals for the indirect effects of message time (controlling for message length) on final message effectiveness through the proportion of time spent brainstorming/editing did not overlap with any positive values (95% Confidence Interval [-0.018, -0.001]), thereby indicating a negative indirect effect; the decrease in effectiveness due to time spent message crafting was mediated by the proportion of time spent brainstorming/editing. In support of
Hypotheses 4 and 6, the confidence intervals for the indirect effects of time spent crafting through the proportion of time spent brainstorming/editing on anxiety (95% Confidence Interval [0.000, 0.008]) and frustration (95% Confidence Interval [-0.000, 0.0009]) did not overlap with negative values; the increase in anxiety and frustration due to time spent message crafting was mediated by the proportion of time spent brainstorming/editing. In regard to Hypothesis 2, the confidence intervals for the indirect effect of time spent crafting through the proportion of time spent brainstorming/editing on depletion (95% Confidence Interval [-0.001, 0.008]) while trending in the correct direction did overlap with negative values. Consequently, although the results were trending in the correct direction, Hypothesis 2 was not supported. The lack of significant findings may be due to the study being underpowered. This explanation seems likely given that time crafting had a weaker effect on depletion than anxiety or frustration. Also, it is plausible that the effect of time spent crafting on depletion may not be fully driven by impression management. Although impression management (brainstorming/editing) explained the effects for the two more emotional measures of anxiety and frustration, it did not hold for the more cognitive measure of depletion. This difference may be because while impression management may directly cause negative emotions in email, depletion could be driven more broadly by any kind of behavior, whether it is conscious impression management (brainstorming/editing) or the more automatic and less thoughtful behaviors (typing).

GENERAL DISCUSSION

Through analyzing real time worker emailing experiences, I find that employees often engage in overcrafting of communication. In the data collected, communicators spent excess time crafting their emails at a detriment to their productivity, communication effectiveness, and well-being. Although the findings from this dataset are limited to the context in which they were
collected, and it is likely that at least some degree of message crafting will prove beneficial in other contexts, these findings provide strong evidence for the phenomenon of overcrafting. Through investigating impression management in email, I not only expand theory on impression management across modes of interaction, but also begin to document the often overlooked intrapersonal consequences of impression management (Bolino et al., 2015).

**Theoretical Implications**

The research in this chapter contributes to multiple areas of Organizational Behavior. Most directly, the study results expand impression management theory in two regards. First, I bring to light the potential negative intrapersonal consequences of impression management. Whereas prior research on impression management generally focused on how specific tactics or individual differences alter impression management outcomes (Bolino et al., 2015), I show that choice of communication medium may counteract impression management, thereby worsening outcomes. I find that impression management processes are particularly relevant to text-based communication, as the editable nature of this medium allows for boundless time spent engaging in impression management. Communication medium functions as a kind of filter that may block observers from noticing actors’ more nuanced behaviors that are often associated with successful impression management. At least in this study context, it appears that when it comes to impression management in email, the saying “less is more” may truly be accurate. These findings strongly indicate that prior research and theory on impression management, which have historically been heavily rooted in face-to-face job interviews (Baron, 1986; Barrick, Shaffer, & DeGrassi, 2009; Ellis, West, Ryan, & DeShon, 2002), need to be rethought when it comes to virtual communication.
These findings are also in direct contrast to a prior meta-analysis that showed that political skill (an antecedent of impression management) improved job performance and did not increase psychological strain (Munyon et al., 2015). There are two potential reasons for this apparent contradiction. First, political skill is associated with people who are more effective at engaging in impression management. It is possible that eliminating individuals who are less skilled at impression management may diminish the negative effects in this study. However, given the magnitude of the effects in this study, it seems unlikely that the overcrafting effects would be completely eliminated, much less reversed. Second, it is plausible that, in the longer-term, impression management may indirectly benefit employee well-being as it can improve work outcomes (e.g., job performance) (Bolino et al., 2015; Munyon et al., 2015), which will increase employee happiness (Lyubomirsky, King, & Diener, 2005). Nonetheless, in the shorter term, impression management may be a detriment to well-being due to the extra effort and regulation needed for day-to-day interactions.

Lastly, the findings from this chapter can also be used to inform theories bear similarities to impression management. Impression management has been defined as “… behaviors that employees (commonly referred to as actors) use to shape how they are seen by others (commonly referred to as targets — who are typically supervisors and coworkers, but sometimes subordinates and customers) at work” (Bolino et al., 2015, p. 378). Although communication researchers have previously defined message crafting as purely a type of impression management behavior (Walther, 1993, 2007), other processes may be underlying this phenomenon, as well. Notably, the provided definition of impression management5 can also be loosely applied to many behaviors that are often categorized as emotional labor, self-regulation, and self-monitoring.

5 “Any behavior by a person that has the purpose of controlling or manipulating the attributions and impressions formed of that person by others” (Tedeschi & Riess, 1981)
(Hochschild, 1983; Kanfer & Kantrowitz, 2002; Snyder, 1974). For instance, studies of self-monitors indicate that they often achieve better work outcomes (Day, Shleicher, Unckless, & Hiller, 2002; Kilduff & Day, 1994; Snyder, 1974). Yet, it is possible that high self-monitors may be more likely to engage in impression management, and consequently may be less productive when utilizing email (and perhaps only when utilizing email). Additionally, the outcomes of emotional labor, which involve regulating the communication of emotions to create a desired impression (Bono & Vey, 2005; Grandey & Gabriel, 2015; Morris & Feldman, 1996), may also be undermined when utilizing text-based communication. Although text-based communication may ease the process of emotional labor in some regards, since less effort is needed to mask emotions in email compared to face-to-face interactions, this may be counterbalanced by the additional time spent in this regulatory process as a result of email overcrafting. Counter to this point, Chapter 2 in this dissertation included the observation that individuals are likely to choose email because they perceive the medium to be less effortful. The divergence in these ideas may be because the workers in Chapter 2 choose email specifically for the purpose of putting in less effort (e.g., they are unlikely to overcraft), whereas the workers in this chapter were forced to engage in email, and thus Chapter 3 was more likely to capture situations in which overcrafting was observable.

Although message crafting has been defined here and elsewhere as a type of impression management behavior (Walther, 1993, 2007), this categorization may be overly narrow. The categorization of message crafting as impression management is useful in that the underlying psychological processes that occur during message crafting are likely identical (or nearly identical) to those in other types of impression management strategies. However, whereas prior research (excluding that on message crafting) has focused primarily on individuals’ goals of
creating positive impressions of themselves, additional goals are likely be underlying the desire to message craft. In some cases, message crafting may not technically be driven by any kind of specific impression-based goals, but simply by information-based goals. For instance, a superior may carefully craft an instructional message to a subordinate to ensure that the subordinate does not get confused. In this example, the superior is completely unconcerned about the employee’s impression of her, and is only focused on ensuring the employee can work effectively. By siloing message crafting into impression management, the important moderating effect of these types of varying goals may be overlooked. Future research that examines such moderators of message crafting may be well-suited to expanding beyond the theoretical focus on impression management.

Limitations and Future Directions

There are a variety of routes for future research to both strengthen and extend the findings in this chapter. One of the strengths of this study was that its experience sampling methodology allowed for collecting data from employees in real time. This methodology greatly increased the external validity of the findings but, as with any methodology decision, there are limitations. For instance, although this study utilized a variety of steps to avoid potential confounds and common method bias — such as collecting data at multiple time points, selecting controls to eliminate potential confounds, and utilizing different question formats (e.g., likert items and percent allocations) (Podsakoff et al., 2003) — a truly experimental design would be better able to eliminate some of these factors. One example of a potential confound in the existing results could be message complexity, whereby more complex messages might have simultaneously resulted in a higher need for crafting and a lower likelihood of success. Although controlling for predictive message effectiveness should have eliminated part of this confound (as message
writers should expect more complex messages to be less effective), this confound may still partially exist. Similarly, as noted in the study discussion, the findings from this study may have been limited by a range restriction, whereby all or most participants appeared to be spending more than ample time crafting all or most of their emails. For instance, new employees who are unfamiliar with email norms may actually undercraft email messages to the detriment of message effectiveness. A follow-up experimental study that drives participants to devote limited time to message crafting versus substantial time to message crafting could both eliminate potential confounds and discover if the effect of email crafting on email effectiveness is truly curvilinear (as predicted in Hypothesis 4) or only negative (as discovered in this study).

The primary focus of this chapter was to explore the phenomenon of email overcrafting and its main effects on intrapersonal, interpersonal, and productivity outcomes. However, there is significant opportunity to bring further nuance to these effects through examining potential moderators. For instance, certain personality traits, such as self-monitoring or political skill (Munyon et al., 2015; Snyder, 1974), may make individuals more prone to engaging in overcrafting or more effective in their crafting of communication. An individual who is particularly effective at impression management (e.g., someone high on political skill) may actually show a positive relationship between time spent message crafting and message effectiveness. Similarly, certain contextual and recipient variables may make overcrafting more or less effective. Examples of such variables include message topic or recipient conscientiousness/attention. For complex message topics, there may be a greater benefit for message crafting, such that more time spent crafting may actually improve message effectiveness. Alternatively, for more simple message topics, message crafting may be completely fruitless because a message may reach peak effectiveness without any brainstorming
or editing. Future studies that capture these moderators would be able to potentially distinguish
the contexts under which impression management is more or less effective in email.

One final limitation of this study involved the choice of measures. Notably, message
effectiveness was self-rated on the part of the message sender. This decision was made because
message senders are best positioned to evaluate if a message achieved their impression
management goals. However, capturing recipient evaluations of messages may provide greater
nuance to the findings in this chapter. It is plausible that message recipients may actually value
message crafting, but not in a manner that is obvious to message recipients in the shorter term.
When evaluating the effectiveness of a message in the context of this study, message senders
likely focused most heavily on whether their message resulted in a positive response or sale.
Message recipients, however, may make attributions from a message, including how intelligent
they perceive the sender to be, that may not be relayed back to the message sender. For example,
in the middle of a month-long relationship, if a real estate agent sends a poorly crafted email to a
house buyer, the house buyer may still opt to buy the house because it fits her criteria (short-term
effectiveness). However, because the house buyer is unimpressed with the agent’s
communication style, she may be less likely to recommend the real estate agent to friends
months later (long-term effectiveness). Following in the steps of prior literature on impression
management, it would be valuable to consider the effectiveness of impression management not
just from the actor’s perspective, but the recipient’s perspective (Bolino et al., 2015), as well, in
future studies.

**Practical Recommendations**

The findings from this chapter can provide insight to employees and managers alike for
improving workplace communication and employee well-being. Most prominently, I show that
workers often spend excessive time crafting emails to their detriment. The study in this chapter indicated that workers would be better served by spending less time anxiously crafting emails, as there appear to be large costs to doing so. It is important to note, though, that this recommendation does not mean that emails should be rushed, but rather, the excessive concern of perfecting emails could be mitigated without negative repercussions.

Managers can utilize the findings from this study to structure subordinate interactions in a manner better suited to improve employee productivity and well-being. Whereas many gurus and news outlets recommend skipping “unproductive” in-person meetings in place of email (Baer, 2014; Silverman, 2009), this chapter indicates that recommendation may not always be correct. In-person meetings are confined by the meeting time. If the topic of a communication is highly important, employees could easily spend over 30 minutes crafting a single email, even though multiple emails may be needed to resolve a single issue at hand. Further, the permanent record of emails may cause employees to feel anxiety and the need to engage in additional impression management than would be needed in a face-to-face meeting. Beyond simply choosing the optimal medium, managers could potentially improve communication outcomes by setting norms whereby it is preferred that emails are efficient even if they contain errors. As an example, by allowing employees to know that they will not be punished for spelling or grammatical errors in emails, they may be likely to spend less time struggling over crafting their emails.

Conclusion

Even though impression management is central to most every type of goal-oriented work interaction (Bolino et al., 2015), the impact of mode of communication in relation to this phenomenon has been almost completely overlooked. This chapter begins to highlight the outcomes of impression management in email, showing that impression management may
severely undermine workers’ goals. My hope is that this chapter will inspire future work to help managers and employees better answer the question “How can I make a better impression over email?”
DISSERTATION CONCLUSION

The three chapters in this dissertation test and develop theory for goal-oriented communication decisions and outcomes across three separate domains: voice (Chapter 1), emotional labor (Chapter 2), and impression management (Chapter 3). Although these chapters broach different types of communication decisions in differing contexts, a number of clear similarities arise. These similarities are first observed in the choices workers make when communicating to achieve their desired goals. When engaging in goal-oriented communication, many workers often feel the need to put in as much effort as possible in order to achieve their goals. This effortful behavior was observed most clearly in Chapter 3 in the discovery of the phenomenon of workers overcrafting their emails. In Chapters 1 and 2, a subset of participants also chose more effortful routes, whether by increasing the intensity of challenge in their communication or engaging in surface acting in face-to-face interactions. These findings are similar to those found in the goals literature, in that goals can often push employees to go to extremes (Ordóñez et al., 2009).

However, across all three chapters, an even clearer trend emerged: higher levels of exertion in workplace communication often undermined goal-oriented communication outcomes. In Chapter 1, increasing intensity of communication to very challenging voice resulted in the voicer being punished. In Chapter 2, when teachers chose the most effortful mode of communication for surface acting, face-to-face communication, it resulted in parents evaluating the teachers as being less authentic. In Chapter 3, the overcrafting of emails not only made the senders more anxious and frustrated, but it also worsened sender evaluations of their message outcomes two weeks later.
The key driving force behind these findings is twofold. First, the benefits of exerting oneself beyond an optimal point for workplace communication (e.g., by adding intensity, emotional cue information, or time) seem to “satiate” and yield diminishing marginal returns (Coombs & Avrunin, 1977; Grant & Schwartz, 2011; Pierce & Aguinis, 2013). Second, the costs of exerting oneself in workplace communication seem to escalate. As observed in the dissertation chapters, monitoring and altering one’s behavior is generally detrimental to the actor’s cognitive and emotional well-being (Chapters 2 and 3). This is because the act of monitoring and altering one’s behavior from its natural authentic state is both highly depleting (Baumeister & Heatherton, 1996; Grandey & Gabriel, 2015; Muraven & Baumeister, 2000) and can create a negative state of cognitive dissonance for actors because they feel that they are being inauthentic to themselves (Brehm & Cohen, 1962; Festinger, 1962). These negative intrapersonal outcomes are likely to indirectly harm interpersonal message outcomes, as workers are less effective when they experience negative emotions and are cognitively depleted (Baumeister et al., 1998; Gino, Schweitzer, Mead, & Ariely, 2011; Lyubomirsky et al., 2005). More directly, recipient perceptions of authenticity can drive the interpersonal outcomes of communication because authenticity is also highly valued by recipients (Grandey et al., 2005). Authenticity can provide cues to recipients that the message sender is not lying and is actually truly happy to engage with them. Recipients who perceive a sender to be less authentic often punish that sender through multiple means, such as worsened evaluations (Grandey et al., 2005) and being less cooperative (Côté et al., 2013).

This effect of inauthenticity is broadly observed in the dissertation chapters. In Chapters 2 and 3, I find that too much effort can worsen outcomes, likely in part because the interactions seem forced and inauthentic to recipients. Yet it is also important to consider that, so too, can too
little effort be problematic because it appears as if the email sender does not authentically care
even to put in the effort that telephone or in-person interaction would require (Chapter 2). In
Chapters 1 and 2, I find that there is a “sweet spot” for goal-oriented communication whereby
balancing communication intensity and effort results in optimal outcomes.

Furthermore, in the context of studying voice, Chapter 1 introduces an interesting
potential boundary condition to the effect of authenticity of interpersonal outcomes. Voicers who
engage in high degrees of challenge are likely to be viewed as highly authentic, as they are
engaging in this behavior at a detriment to themselves; in this case, inauthentic impression
management would be unlikely because communicators easily realize that they will be creating a
negative impression by being so confrontational. Consequently, it appears that authenticity only
matters when the underlying emotion or sentiment that is being evaluated is one that is favorable
to the recipient. In other words, when a subordinate is displaying authentic happiness to a
supervisor, that supervisor will be pleased. However, when a subordinate is displaying authentic
anger or aggression directed at a superior, it will result in the supervisor evaluating and
punishing that subordinate more harshly (Chapter 1). There is some suggestive evidence from the
field of marketing to this effect, in that inauthentic flattery often goes unpunished and may even
be rewarded, because those in power feel an ego boost from these interactions (Chan &
Sengupta, 2010).

Together, the goal of these chapters was not only to develop theory, but also to create a
more applicable and practical toolkit for individuals, from front-line employees to executives, on
the best practices for approaching goal-oriented communication. Whereas prior studies on topics
such as voice and emotional labor have taken a longer-term perspective on these phenomena by
utilizing surveys to capture broader communication trends, I examined interactions in real time
to generate directly actionable recommendations for how workers can approach specific goal-oriented communication decisions. Chapter 1 highlights how workers can frame their communications to effectively stop injustices and spark innovation within their organizations. Chapters 2 and 3 provide insight into how workers can approach the choice — and use — of newer communication technologies. Together, the research in these chapters shows that the advice to “put your all into everything that you do” may in fact be suboptimal when it comes to goal-oriented communication.
APPENDICES

Appendix A: Chapter 1 Pilot Message Generation Study

In the pilot study, participants engaged in a similarly designed simulation to that of Study 1, but were placed in the role of the Vice President (the person observing the injustice with an opportunity to speak up about it to a superior) instead of the role of the CEO (the person engaging in the injustice who receives voice). Following the first round of the grammar task, there were two methodological differences in this pilot study to make the experience of speaking up riskier for participants. First, as opposed to Study 1 wherein the CEO could not alter the Vice President’s pay, in this pilot study, the CEO determined pay for all team members (and participants were aware of this). Also, the CEO had the ability to fire teammates (kick members out of the simulation), and the Vice President (the participant) observed her team CEO firing a fourth teammate for poor performance following the first grammar task, prior to being given the opportunity to engage in voice.

Following this first task and the firing of a teammate, participants (the Vice President) saw that the CEO paid himself/herself (the sex of the CEO was counterbalanced) and the Vice President (the participant) $0.42 each, and the CEO paid the Employee (who scored four points higher than the CEO) $0.07. Participants received a message from the CEO “This is awesome. Let’s keep making money.” On the next screen, participants were told, “As Vice President, you have the option to send a message to the CEO. If you wish to do so, please enter it in the box below. If not, you may leave the box empty and click ‘Next.’” Participants then completed a second round of the simulation with a similar grammar task. After the task, participants once again saw how all teammates performed and that they were paid similarly by the CEO; once again, the simulation was programmed so that Employee 2 performed very well relative to the
team and was paid a very small amount. Following the pay allocations, participants were given another option to send a message to the CEO.

Of the 36.9% of participants who engaged in upward communication, all of their messages were rated by two independent coders on a seven-point scale from 1 = very supportive to 7 = very challenging ($\alpha = .95$). Examples of supporting messages included: “Good call on the removal, what an abysmal score;” “Let's make more money together!!!;” and “Thank you for the allocation of money. It is much appreciated.” Given our topic of interest was challenging voice, for the present study, three messages per level of challenge (4 = neutral, 5 = slightly challenging, 6 = moderately challenging, and 7-very challenging) were chosen from the pilot study. Using multiple messages within each category allowed us to examine the effect of challenging voice with greater generalizability. In selecting messages generated by the previous set of participants, we chose those that were non-specific to the pilot studies (e.g., the message did not mention anything specific about the CEO’s appearance/bio), and were distinctive from the other messages within the same level. We made slight alterations to these messages to ensure that they would be appropriate to the context of the simulation (e.g., we changed the word “he” to “she”). The messages that were utilized are included in Appendix B. Additional details of the pilot study are available on request from the first author.
Appendix B. Chapter 1 Messages Used in Studies 1 and 2

Neutral Messages

1) Shall we go again?
2) This is fun. I love word games.
3) Good working with you.

Slightly Challenging Messages

1) We are lucky to have Stephanie helping out.
2) If possible, could you increase Stephanie's earnings? She's been doing very well.
3) Maybe you should give Stephanie more if she continues to perform well.

Moderately Challenging Messages

1) Stephanie did exceedingly well last round. If she has a repeat performance, she should get a bonus.
2) I think Stephanie should get more money.
3) I think we need to be a little fairer in our allocations to our employee if we want to keep the best ones working for us. Stephanie had a high score and should have received a higher compensation.

Very Challenging Messages

1) Only that much for the employee? That's pretty mean.
2) Give Stephanie more money or I'm quitting.
3) Seriously? Stephanie is making most of the money yet you pay her next to nothing?
Appendix C. Chapter 1 Study 2 Focused Replication

Study 3

We conducted Study 3 in order to replicate our prior findings regarding the impact of varying degrees of challenging voice on recipients’ (the CEOs’) attitudes/behaviors toward the voiced concern (persuasion and Employee pay).

Sample and Procedures

A total of 281 people from the United States ($M_{age} = 32.26, SD = 10.06; 154$ male) recruited from Amazon Turk completed the entire study. All procedures were identical to those of Study 2, except for two changes. First, to increase the realism of the study, instead of having participants write a bio (and read bios of their “teammates”) at the beginning of the study, participants chatted with another live participant whom they believed would be on their team. This was accomplished using a chat platform\(^6\) in the survey that paired participants in real-time as they entered the survey. If a participant was not paired with someone else within two minutes, then he was paid without having to complete the rest of the study. The chat served to provide evidence to participants that the teammates were not programmed, and to help further humanize the Vice President. Prior to the chat, participants were told that they were selected as one of the managerial roles in the study (CEO or Vice President) and that their chat partner would be in the other role (participants did not yet receive any information regarding what these roles or the simulation would entail). Participants were instructed not to discuss any identifying information in the chat (e.g., name, age, or sex), and to choose discussion topics such as “1) what the weather is like near you, 2) the type of phone you have, and 3) what you ate for dinner last night.” Unbeknownst to participants, after the chat, they were not on the same team; rather, they were both assigned to the role of CEO. The remainder of the simulation proceeded similarly to that of

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\(^6\) Chat methodology adapted from Brooks and Schweitzer (2011).
Study 2. The only other change in the study was that only the measures relating to the voiced concern (employee pay and persuasion) were captured, while the measures of attitudes and behaviors toward the voicer were not included.

**Results and Discussion**

Table 13 displays the descriptive statistics for each of the variables.

**Table 13. Descriptive Statistics**

<table>
<thead>
<tr>
<th></th>
<th>Change in Employee Pay (Pay Round 2 - Pay Round 1)</th>
<th>Persuasiveness of Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>$0.96 ($6.68)</td>
<td>3.84 (1.55)</td>
</tr>
<tr>
<td>Slightly Challenging</td>
<td>$3.29 ($8.46)</td>
<td>4.95 (1.52)</td>
</tr>
<tr>
<td>Moderately Challenging</td>
<td>$4.86 ($7.47)</td>
<td>4.84 (1.68)</td>
</tr>
<tr>
<td>Very Challenging</td>
<td>$1.52 ($9.46)</td>
<td>3.51 (1.97)</td>
</tr>
</tbody>
</table>

*Note.* This table presents mean values with the standard deviations in parentheses.

Using regression analyses controlling for Round 1 Employee pay, we found that slight \( b = 2.49, t(152) = 2.12, p = .035 \) and moderate \( b = 3.85, t(138) = 3.28, p = .001 \) levels of challenge (compared to a neutral message) increased how much the CEO paid the Employee in Round 2. For Employee pay, we did not find a significant difference between the slight and very levels of challenge \( b = -1.50, t(137) = -1.01, p = .31 \), and saw a decrease in Employee pay when voice moved from moderate to very challenging \( b = -3.03, t(123) = -1.98, p = .50 \).

Similarly, we found that compared to neutral messages, slight \( t(153) = -4.51, p < .001 \) and moderately \( t(139) = -3.66, p < .001 \) challenging messages were significantly more persuasive. Alternatively, very challenging messages were significantly less persuasive than slight \( t(138) = 4.87, p < .001 \) and moderately \( t(124) = 4.05, p < .001 \) challenging messages. There was no significant difference in persuasion between the neutral and very challenging messages \( t(147) = 1.13, p = .262 \), or between slight and moderately challenging message \( t(130) = 0.40, p = .687 \).
Overall, we once again observed that the optimal level of attitudes and behaviors toward the voiced concern (i.e., Employee pay) occurred at slight and moderate levels of challenge.
References


Oriented behaviors really have an impact on the organizations bottom line? *Personnel Psychology, 64*(3), 559-592. doi: 10.1111/j.1744-6570.2011.01219.x


