Social judgments of electronic multitasking in the workplace: the role of contextual and individual difference factors

Rushika De Bruin

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ABSTRACT

SOCIAL JUDGMENTS OF ELECTRONIC MULTITASKING IN THE WORKPLACE:
THE ROLE OF CONTEXTUAL AND INDIVIDUAL DIFFERENCE FACTORS

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The modern workplace has become dependent on technology use for day-to-day activities, with employees often engaging in electronic multitasking behaviors. Yet, little research has systematically explored how employees view these behaviors. The current set of studies investigated the influence of contextual and individual difference factors on observers’ social judgments of electronic multitasking (i.e., rudeness, agency, and communalism) during work meetings using vignettes. Using a between-subjects experimental design, Study 1 (N = 465) found no significant differences in social judgments based on the type of task-switching behaviors (sequential vs. concurrent). Study 2 (N = 477) further explored how the relevance of the multitasking to the primary task affects these judgments (irrelevant vs. relevant secondary task) using a between-subjects experimental design. Relevant multitasking was evaluated as less rude, more agentic, and more communal than irrelevant multitasking. Individual differences were also examined in both studies (i.e., polychronicity and trait anger), with both studies showing those high in polychronicity rated multitasking as less rude, more agentic, and more communal. However, results for trait anger were mixed across studies. Finally, a third within-subjects exploratory study was conducted (N = 71) to differentiate how the same individual rates each of the multitasking behaviors based on type of task-switching behaviors (sequential vs. concurrent) and relevance (irrelevant vs. relevant secondary task). Expected differences emerged where
participants evaluated relevant multitasking and concurrent multitasking as less rude, more agentic, and more communal than irrelevant multitasking and sequential multitasking, respectively. The results of these studies could be used to prevent negative social judgments of electronic multitasking behavior in an organization, leading to more productive meetings and better relationships among coworkers. This is important because such social judgments influence job satisfaction and employee well-being.
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SOCIAL JUDGMENTS OF ELECTRONIC MULTITASKING IN THE WORKPLACE:
THE ROLE OF CONTEXTUAL AND INDIVIDUAL DIFFERENCE FACTORS

BY
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A THESIS SUBMITTED TO THE GRADUATE SCHOOL
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Larissa K. Barber
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>LIST OF TABLES</th>
<th>iv</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF FIGURES</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF APPENDICES</td>
<td>vi</td>
</tr>
</tbody>
</table>

## Chapter

1. INTRODUCTION ................................. 1
2. ELECTRONIC MULTITASKING AND SOCIAL JUDGMENTS .................. 4
   Rudeness ........................................ 5
   Agency and Communalism ........................ 11
3. INDIVIDUAL DIFFERENCES AND SOCIAL JUDGMENTS  .................. 15
   Polychronicity .................................. 16
   Trait Anger ...................................... 20
4. CURRENT STUDY OVERVIEW .......................... 25
5. STUDY 1 ........................................ 29
   Method .......................................... 30
   Results ........................................... 34
   Discussion ....................................... 48
6. STUDY 2 ........................................ 53
   Method .......................................... 54
   Results .......................................... 55
<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Descriptive Statistics and Correlations Among Study Variables in Study 1</td>
<td>37</td>
</tr>
<tr>
<td>2. Results of Multiple Regression Analyses with Task Switching Condition and Polychronicity on Rudeness, Agency, and Communalism</td>
<td>38</td>
</tr>
<tr>
<td>3. Results of Multiple Regression Analyses with Task Switching Condition and Trait Anger on Rudeness, Agency, and Communalism</td>
<td>46</td>
</tr>
<tr>
<td>4. Descriptive Statistics and Correlations Among Study Variables in Study 2</td>
<td>59</td>
</tr>
<tr>
<td>5. Results of Multiple Regression Analyses with Task Relevance and Polychronicity on Rudeness, Agency, and Communalism</td>
<td>61</td>
</tr>
<tr>
<td>6. Results of Multiple Regression Analyses with Task Relevance and Trait Anger on Rudeness, Agency, and Communalism</td>
<td>67</td>
</tr>
<tr>
<td>7. Correlations and Descriptive Statistics of Variables in Study 3</td>
<td>76</td>
</tr>
<tr>
<td>8. Results of Repeated-Measures ANOVAs with Engagement and Relevance on Rudeness, Agency, and Communalism</td>
<td>78</td>
</tr>
</tbody>
</table>
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Difference in Evaluations of Rudeness, Agency, and Communalism Between Sequential Multitasking and Concurrent Multitasking</td>
<td>42</td>
</tr>
<tr>
<td>2.</td>
<td>The Relationship Between Evaluations of Rudeness, Agency, and Communalism and Polychronicity</td>
<td>43</td>
</tr>
<tr>
<td>3.</td>
<td>The Interaction Between the Level of Engagement (Concurrent vs. Sequential) and Polychronicity on the Evaluations of Rudeness, Agency, and Communalism</td>
<td>44</td>
</tr>
<tr>
<td>4.</td>
<td>The Relationship Between Evaluations of Rudeness, Agency, and Communalism and Trait Anger</td>
<td>50</td>
</tr>
<tr>
<td>5.</td>
<td>The Interaction Between the Level of Engagement (Concurrent vs. Sequential) and Trait Anger on the Evaluations of Rudeness, Agency, and Communalism</td>
<td>51</td>
</tr>
<tr>
<td>6.</td>
<td>Difference in Evaluations of Rudeness, Agency, and Communalism Between Irrelevant Multitasking and Relevant Multitasking</td>
<td>65</td>
</tr>
<tr>
<td>7.</td>
<td>The Interaction Between the Task Relevance (Irrelevant vs. Relevant) and Polychronicity on the Evaluations of Rudeness, Agency, and Communalism</td>
<td>66</td>
</tr>
<tr>
<td>8.</td>
<td>The Interaction Between the Task Relevance (Irrelevant vs. Relevant) and Trait Anger on the Evaluations of Rudeness, Agency, and Communalism</td>
<td>69</td>
</tr>
<tr>
<td>Appendix</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>A. CONSENT FORM</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td>B. VIGNETTES</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>C. SCENARIO PERCEPTIONS</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>D. POLYCHRONICITY SCALE</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>E. FIVE FACTOR MODEL SCALE</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>F. BUSS-PERRY SCALE</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>G. DEMOGRAPHICS</td>
<td>116</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION

Technology is widely used in the modern workplace (Watson-Manheim & Belanger, 2007), which comes with both benefits and costs for employee productivity. Although individuals can instantly access information to facilitate work tasks and technology affords a more responsive workforce, employees may use technology for tasks that are not related to work. For example, employees in a meeting could use their electronic devices to check personal emails or plan personal events instead of contributing to the work meeting (Yoo, 2010)—a behavior known as electronic multitasking. In addition to potentially reduced employee productivity, electronic multitasking can lead to negative social judgments by other employees (i.e., rudeness, laziness, selfishness). Such negative judgments are important because they play a role in day-to-day workplace interactions. On an interpersonal level, they could impair face-to-face communication (Bohmer, Saponas, & Teevan, 2013; Dietel, McMann, Bosco, & Harvey, 2011) or lead to reduced group productivity, especially if coworkers need to repeat information for members who were distracted by technology (Newman & Smith, 2006). Such behaviors could waste supervisors’ time if they have to sort out disputes between coworkers (Hasenberg & Machovsky, 2015). Furthermore, these negative judgments affect health, burnout, and satisfaction among employees (Bowling & Beehr, 2006).

Although some individuals claim that multitasking is detrimental to performance (Reinsch, Turner, & Tinsley, 2008) and could be evaluated negatively by coworkers
(Appelbaum, Marchionni, & Fernandez, 2008), other research suggests that multitasking is not always judged as a negative work behavior (Bell, Compeau, & Olivera, 2005). For example, organizations consider multitasking a beneficial characteristic or skill in new employees (Judd, 2013; Kleinman, 2009). Meeting leaders also sometimes encourage electronic multitasking if it helps to improve performance and productivity (Reinsch et al., 2008).

There are differing reasons why some multitasking behaviors are seen as beneficial while others are judged as detrimental. Generally, research tends to focus on technology use that reduces attention to one’s social surroundings (e.g., cell phone use in restaurants, movie theatres, or libraries; Lever & Katz, 2007; Ling, 2004). Thus, the current studies take technology and evaluations into a new domain: an organizational meeting context. In this context, such technology use is described as a counterproductive meeting behavior (CMB). CMBs could include actions such as engaging in side conversations or discussing topics not relevant to the meeting topic (Allen, Yoerger, Lehmann-Willenbrock & Jones, 2015). However, behaviors that result in shared attention between private tasks and social tasks (i.e., electronic multitasking) may not necessarily be evaluated negatively (Bell et al., 2005). One study found that some CEOs are not bothered by an employee responding to an email during a meeting if performance is not affected (Cameron & Webster, 2011). Additionally, some individuals may interpret electronic multitasking more positively than others. This may include people who prefer to engage in multitasking themselves (Bell et al., 2005) or those who tend to experience less anger (Sliter, Withrow, & Jex, 2015).

The current document is designed to determine how such contextual and individual difference factors could affect negative evaluations of electronic multitasking during work meetings. Study 1 examined how social judgments differ depending on the type of task-
switching behavior during electronic multitasking; namely, I differentiated between concurrent electronic multitasking and sequential electronic multitasking. Concurrent multitasking involves more rapid task switching than sequential multitasking, thus the former conveys more attention to the primary work task. Sustained attention on the primary task—even if shared with a secondary task—could signal that productivity is unaffected and reduce negative social judgments (e.g., Cameron & Webster, 2011). Study 2 further investigated how the content of the multitasking (e.g., a task related to the primary task or a task that is unrelated to the work at hand) affects these judgments. Using technology to work on multiple work tasks—rather than non-work tasks—may also reduce negative social judgments due to task content relevance (Bell et al., 2005). Finally, I further examined how two individual differences previously tied to social judgments (i.e., polychronicity and trait anger; see Bell et al., 2005; Sliter et al., 2015) influence perceptions of electronic multitasking in both studies. I also explore whether both polychronicity and trait anger may alter the effects of contextual cues (task-switching behavior and task content relevance) on reactions that people have to electronic multitasking behaviors. Study 3 combined the contextual factors from both Study 1 and Study 2 in a within-subjects design and had participants rate all four combinations of multitasking behaviors.
CHAPTER 2

ELECTRONIC MULTITASKING AND SOCIAL JUDGMENTS

In the modern world, technology has become a large part of our lives, infiltrating our schools, workplaces, and homes (Schuldt, Totten, Adrian, & Cox, 2012; Tang, 2005). Many researchers have noted that the current generation has grown up with their portable electronic devices and an almost constant connection to the internet (Green, 2011; Singh, 2013). Such connectivity often results in the prevalence of electronic multitasking, which is “rapid task switching behavior involving information technologies” (Bell et al., 2005, p.80). Technology allows us to do more tasks in a shorter amount of time, often through multitasking, and permits constant availability. Accomplishing multiple tasks and being constantly available is something the modern workplace has embraced. More than 80% of employees in a study claimed that their company was supportive of using laptops while at work (Bajko, 2012). This support might be indicative of the idea that technology has become the norm of the modern organizational culture.

The importance of technology to the modern organization clearly demonstrates not only how significant technology is to a single organization but also how vital it is in moving towards a more globalized economy as well.

Despite being widespread, electronic multitasking, particularly in interpersonal situations, can lend itself to negative social judgments. Social judgments refer to how people perceive and interpret others’ actions and make judgments about them (Forgas & Williams, 2003). In the 1960s, Goffman suggested that public behavior is seen as a form of role-playing. Thus, it is up to
social judges to interpret these performances and infer the message or meaning that the actor is trying to get across (Forgas & Williams, 2003). Similarly, others can evaluate electronic multitasking in multiple ways. These evaluations are consequently important as they can inform future behavior and reactions from observers.

The current studies focused on the three key evaluations of electronic multitasking behavior in a workplace setting: rudeness, agency, and communalism. First, I focus on how task-switching behavior may change the evaluation of electronic multitasking during a work meeting (i.e., concurrent multitasking vs. sequential multitasking; Salvucci & Taatgen, 2011; Stephens et al., 2012). Second, I discuss how task content relevance may also alter how individuals perceive multitasking. Finally, I determine if individuals’ differing levels of polychronicity or trait anger could moderate this relationship.

Rudeness

Electronic multitasking can be interpreted as uncivil behavior, or a CMB, which other employees may evaluate as rude. Even with the growing use of cell phones, Americans are still less accepting of their use. Often, they consider it to be an unwanted distraction in a work context (Peng & Chu, 2012). Schlosser (2002) found that people evaluated the use of technology devices for communication during face-to-face interactions and group meetings as rude. Those who engage in such electronic multitasking during work face-to-face communications have been described as obnoxious, impolite, distracted, and ignorant (Bell et al., 2005). If other employees evaluate this behavior as a CMB, it could lead to the organization calling additional meetings in order to fix the problems that arose in the initial meetings from this sort of behavior (Allen,
Rogelberg, & Scott, 2008). This could lead to a decrease in group productivity and potentially to the organization spending additional time and resources that could have been avoided.

Goffman’s (1967) theory of impression management provides a potential explanation for why multitasking in a face-to-face communication can result in negative evaluations and thus be judged as rude. He posits that individuals can either be “on-stage” or “off-stage.” When individuals are on-stage, they are expected to adhere to the norms of the situation. In an organizational context, the norms would involve performing job duties. However, when individuals are off-stage, they are free to deviate from these norms with no repercussions. So in this instance, when they are not in a meeting or work context, they can be free to use technology or multitask without being evaluated negatively. For instance, when an individual uses technology in the privacy of one’s own home, he or she is not held to any social norms, as that would not be a public, social situation. However, when individuals use technology in public, they may be seen as self-serving and/or rude (Cumiskey, 2005; Ellis, Daniels & Jauregui, 2010), as they are violating the norms they should be adhering to in public situations. Schuldt and colleagues (2012) reported that approximately 74% of business students have observed others using technology in class and judged them as not paying attention because of it. Consequently, the other students rated such behavior as rude. This judgment could have been formed because they are observing their classmates disengaging from the task at hand and being inattentive.

In an organizational context, electronic multitasking could lead to social judgment in a meeting, as it is a social interaction that has visibility, awareness, and accountability (Erickson & Kellogg, 2000). Visibility, awareness, and accountability imply that other employees can most likely see the individual engaging in these behaviors, the individual is aware that others can see her or him, and the individual can be held accountable for her or his actions. This accountability
acts as a sort of social rule that can serve as a mechanism to control individuals’ behavior (Hasenberg & Machovsky, 2015). The behavioral control could occur because they would not want to break the norms of the situation and have to deal with the social awkwardness as a consequence. Thus, they would tend to be at least partially attentive when they are multitasking in an organizational context, given that this would be acceptable as part of the workplace norm. If they are completely disengaging from the task at hand, they are displaying CMBs and would be more likely to be evaluated as rude.

In the workplace, rudeness is often studied in the domain of incivility research. Uncivil behaviors are minor violations of social norms related to mutual respect in the workplace that “are characteristically rude and discourteous, displaying a lack of regard for others” (Andersson & Pearson, 1999, p. 457). These behaviors tend to be passive and indirect acts, rather than active and direct acts (Pearson & Porath, 2005), and are described as ambiguous in terms of the intent to harm (Cameron & Webster, 2011). This ambiguity means that the observer’s interpretation of this behavior carries great importance. Rudeness can lead to significant negative outcomes in organizations, such as disruption of task performance, deterioration of performance on creative tasks, and increased hesitation to help others (Porath & Erez, 2007). Observers of these behaviors could also respond in ways that can then be costly to the organization. This could subsequently lead to deterioration of the organizational culture and, if not stopped, could escalate into aggressive behaviors with the intent to harm others (Pearson & Porath, 2005).

Research suggests that evaluations of rudeness due to technology use may change based on the type of electronic multitasking in the group meeting, even if everyone in the meeting is using technology. Multiple studies have found that electronic multitasking in a meeting tends to be evaluated as rude because observers infer that the actor has limited interest and attention for
the meeting and individuals involved (Bohmer et al., 2013; Dietel et al., 2011; Iqbal, Grudin, & Horvitz, 2011; Pinchot, Paulett, & Rota, 2011). Thus, it may not be electronic multitasking itself that is seen as rude. Rather, employees who are disengaging from the meeting for an extended period of time may be seen as more inattentive, and consequently more rude.

Most definitions of multitasking include either simultaneous task completion or rapid task-switching behaviors (Bell et al., 2005; Benbunan-Fich, 2012; Cameron & Webster, 2011; Hasenberg & Machovsky, 2015; Limpaphayom, 2011). However, Stephens and colleagues (2012) describe two main types of multitasking behaviors creating a multitasking continuum: concurrent multitasking (simultaneous multitasking) and sequential multitasking (non-simultaneous multitasking). Salvucci and colleagues (2009) further explain that people are constantly switching between tasks. They posit that the difference between concurrent and sequential multitasking is in the time spent on each task before switching. Based on this understanding, concurrent multitasking occurs when two or more tasks are undertaken almost simultaneously, whereas sequential multitasking involves working on one task for some time and then switching to another (Hasenberg & Machovsky, 2015). Thus, sequential multitasking involves a disengagement from the primary task, which can be seen more as inattention to the primary task (Stephens et al., 2012). Alternatively, concurrent multitasking does not include extended disengagement from the task at hand.

Active participation and attention is generally a requirement and expected from all members at work meetings (Benbunan-Fich, 2012; Camacho, Hassanein & Head, 2013). They would have to demonstrate this engagement by actively participating and contributing to the meeting. Team members may consider electronic multitasking rude when it involves being completely disengaged during a meeting. However, employees may actively participate
throughout a meeting while working on secondary tasks concurrently (Hasenberg & Machovsky, 2015). If employees are engaging in concurrent multitasking, then they are being at least slightly attentive to both the primary task and the secondary task. In concurrent multitasking, there is rapid switching of attention between the two tasks, rather than completely ignoring the primary task. Therefore, concurrent multitasking (i.e., staying engaged in the meeting when using technology) may be evaluated as less rude than sequential multitasking (i.e., fully focusing on a secondary task during a meeting).

Given that technology has permeated our daily lives, multitasking has become part of the social norm (Bajko, 2012; Bajko & Fels, 2013; Tang, 2005). One study suggests that 22% of employees claim they can work on their laptop and also pay attention to a meeting (Bajko, 2012). Therefore, it may not be the act of multitasking itself that is considered rude, but the act of disengaging from a primary task entirely. According to arguments made by Stephens and colleagues (2012), concurrent multitasking will be seen as less rude compared to sequential multitasking because the latter is essentially using technology instead of paying attention in a work meeting. The user is disengaging from the task at hand, consequently appearing to place more importance on other affairs than the meeting (Middleton & Cukier, 2006). Ergo, research needs to make a clearer distinction between the rate of task-switching behaviors during electronic multitasking and the consequences that each of them carries. Thus, I hypothesize the following:

_Hypothesis 1: Electronic multitasking is evaluated as less rude when it is done concurrently rather than sequentially._

Evaluations of rudeness may also differ based on the content relevancy of the secondary task. In an organizational meeting setting, employees tend to refrain from multitasking because
they view it as disrespectful towards the individual who is speaking (Wasson, 2004). However, Bell et al. (2005) propose that task relevance likely results in more positive judgments of electronic multitasking. For instance, an employee engaging in a secondary task that helps other employees in the meeting would not be thought of as breaking any norms. Instead they might be judged as being an asset to the meeting by bringing in additional resources. Multiple studies (Bajko, 2012; Bajko & Fels, 2013) found that most employees considered using laptops during a meeting to be acceptable. However, only a handful of individuals reported using laptops for personal tasks or tasks that are irrelevant to the work at hand. Thus, this might indicate that there is a clear distinction between relevant multitasking and irrelevant multitasking in reported use of the techniques.

Kleinman (2007) found that if employees were using laptops during a meeting, they were expected to be using it for clear work-related tasks. Consequently, anything that violates this norm, such as using it for irrelevant matters or personal matters, could be evaluated as rude. Further, if it is not clear that the purpose of the multitasking is relevant to the primary task, others may still interpret these behaviors as rude. Research indicates a tendency for employees to judge the nature of a secondary task as irrelevant in ambiguous situations (Bohmer et al., 2013). I propose that the situations described in the first study and the task-irrelevant group in the second will be evaluated similarly because of the negativity bias in judgment and perception research (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Skowronksi & Carlston, 1989). For example, participants tended to rate information as more negative and “look at the dark side of life” (Bakker & Derks, 2010) when they are in an ambiguous situation (e.g., Bakker & Derks, 2010; Barber & Budnick, 2015; Ito, Larsen, Smith, & Cacioppo, 1998). Given that most modern
organizations are accepting technology use in the workplace (Wasson, 2004), I suggest that clear

task relevance reduces social evaluations of rude behavior.

Hypothesis 2: Electronic multitasking behavior is evaluated as less rude when the

secondary task is relevant to the meeting rather than when it is irrelevant to the meeting.

Agency and Communalism

In the modern workplace, employees may feel that multitasking is unavoidable if they

want to accomplish all of their tasks and not miss anything unexpected or important (Gonzalez &

Mark, 2004). Such behavior may even be desired in the workplace, as workers report that

multitasking is essential to productivity and efficiency (Freedman, 2007) because they are asked

or expected to work on too many tasks at once (Manhart, 2004). Additionally, Stephens (2012)

discusses situations where using technology in the workplace to work on secondary tasks may be

seen as a useful activity. For example, individuals could use technology to look up information

relevant to the task at hand or to stay in contact with people outside of a meeting who can help

provide valuable input. Multitaskers could also be evaluated as keeping themselves available for

other important work tasks that may arise. Beyond being viewed as courteous, these types of

behaviors could also give observers impressions that the coworker engaged in multitasking is

productive (i.e., agentic) and a good team player (i.e., communal).

There is a consensus that social judgments can be divided into two broad dimensions

(Judd, James-Hawkins, Yzerbyt, & Kashima, 2005), even when compared across cultures and

languages (White, 1980). While these two dimensions can sometimes have different names, they

are essentially derived from Rosenberg’s model (Rosenberg, Nelson, & Vivekananthan, 1968) of
intellectual good/bad and social good/bad (Judd et al., 2005). One widely agreed-upon
distinction is that of agency and communion (Abele, Cuddy, Judd, & Yzerbyt, 2008; Abele &
Wojciszke, 2007).

The division of social judgments into communalism and agency carries with it a
functional meaning based on core challenges that people have faced (Fiske, Cuddy, & Glick,
2007; Ybarra et al., 2008). Communion-like traits are concerned with social acceptance and
connection, which has been critical to our survival. Agentic traits have been those that are related
to the manifestation of skills and competencies (Abele et al., 2008). Additionally, differentiating
between the two dimensions, communalistic traits tend be more on the positive side of the
spectrum; those who are high in communalism tend to be evaluated as warm, friendly, honest,
and good-natured. Conversely, agentic-like traits tend to be on the negative end of the spectrum;
individuals who are described as agentic are often described as displaying negative traits, such as
being deceitful, cold, and unreliable (Abele et al., 2008). However, agency does not necessarily
always carry a negative connotation, as it is also closely linked with increased motivation and
assertiveness. Thus, people high in agency tend to be evaluated as more ambitious and goal
oriented than those lower in agency (Abele et al., 2008).

Consequently, I would expect individuals who are concurrently multitasking to be
evaluated as more agentic because they are paying attention to multiple tasks than those
individuals who are sequentially multitasking. Concurrent multitasking could be seen as more
hardworking and ambitious than sequential multitasking. However, individuals who are
sequentially multitasking could be viewed as being inattentive to the current task (i.e., partaking
in the current meeting). Individuals engaging in sequential multitasking may not necessarily be
seen as hardworking if they are separating themselves from the meeting, as the inattention likely leads to impressions of low skill or competency.

Communal individuals are characterized as more cooperative, generous, and trustworthy than individuals who are less communal. Those who are less communal are seen as more competitive, selfish, and untrustworthy as compared to those who are more communal. These individuals higher in communalism generally emphasize connecting and sharing with others (Roche, Pincus, Hyde, Conroy, & Ram, 2013). There has been an increase in the use of technologies to communicate, or information and communication technologies (ICTs), in organizations, which consequently increases teamwork. Similarly, this increase in technology use requires workers to contribute to multiple nonstandard tasks (Powell, 2001). I would expect workers who display communal traits to also be seen as more of an asset to the organization. Accordingly, an individual who is simultaneously undertaking multiple tasks to help out their coworkers would be seen as more communal than those who are removing themselves from the group task at hand completely. However, individuals who are sequentially multitasking, disengaging from the meeting to work on other tasks, would be regarded as more competitive and selfish (noncommunal). So I would expect that employees who are multitasking concurrently will be seen as more efficient and hardworking and thus more agentic. Furthermore, these individuals can also be seen as benefiting the group and thus more communal if they are multitasking concurrently, as opposed to disengaging from the primary task.

*Hypothesis 3: Electronic multitasking is evaluated as more (a) agentic and (b) communal when it is done concurrently rather than sequentially.*

Electronic devices can be useful in the workplace with individuals able to search for information or assist in the discussion through electronic means (Cameron & Webster, 2011;
Dietel et al., 2011; Kleinman, 2007). Such devices can also help employees collaborate with members who are not currently present. This allows them to have access to additional information that may not have otherwise been available at the meeting without the use of technology (Hasenberg & Machovsky, 2015). As agentic individuals are seen as more efficient, hardworking, and productive, I would expect individuals who are multitasking for clear task-relevant purposes to be evaluated as more agentic. Therefore, employees who are multitasking for goal-relevant reasons, such as looking up information for the meeting or staying available to clients, would be evaluated as being more agentic. For example, one study found that employees who extensively used email to multitask were rated as higher performers by their supervisors than those who did not (Turner, Grube, Tinsley, Lee & O’Pell, 2006).

Furthermore, an individual’s actions could also benefit the entire group if they are multitasking by looking for additional information or material that could assist group discussion. If they are multitasking for purposes that are connected to the primary task instead of for purposes that are unrelated to the primary task, I could expect them to be seen as cooperative and prioritizing the needs of the group and therefore more communal than those who are multitasking on secondary tasks that are not related.

*Hypothesis 4: Electronic multitasking behavior is evaluated as more (a) agentic and (b) communal when the secondary task is relevant to the meeting rather than when it is irrelevant.*
CHAPTER 3
INDIVIDUAL DIFFERENCES AND SOCIAL JUDGMENTS

Early research by Kelly (1955) discusses how the observer’s characteristics could impact the way the observer forms judgments about situations or people. This carries important implications as it clearly denotes that different people can view the exact same situation or behavior in completely different manners. Consequently, this informs the judgments they make about others (Rosenberg & Sedlak, 1972). These individual differences are important as Bowling and Jex (2013) remind us that employee stress can be based on the subjective experiences of workers. Workplace stressors, such as observing a coworker not performing his or her duties, could lead to a variety of negative emotional responses, attitudes, and behaviors (LePine, LePine, & Jackson, 2004; LePine, Podsakoff, & LePine, 2005; Rodell & Judge, 2009; Stroud, Davilla & Moyer, 2008). In a context where employees are working closely together, watching coworkers break situational norms could lead to secondary incivility spirals (Andersson & Pearson, 1999). The disruption from multitasking in a meeting will not only be experienced by the employee who is partaking in the behavior but also by the observers who are witnessing this behavior. Even if coworkers are not directly targeted by uncivil behaviors, simply being in that unpleasant environment could lead to emotional drain (Totterdell, Hershcovis, Niven, Reich, & Stride, 2012). When looking at large samples of employees, Griffin (2010) found that incivility could manifest as a type of shared stressor among employees, which could then lead to increased turnover intentions.
Nevertheless, employees vary in their judgments of electronic multitasking behaviors due to individual differences. According to Lazarus’s (1966) transactional theory of stress, the way that individuals appraise a situation is guided by their personality factors. These factors tend to make individuals more predisposed to direct attention to different aspects of the situation. Subsequently, this predisposition helps to guide their evaluations and interpretations of situations (Motowidlo, 1996). Therefore, employees may have a wide range of subjective evaluations, which could be driven by individual difference factors among employees. Although there can be multiple individual differences that affect both how people direct attention to an event and interpret it, I focus on how they interpret an event once their attention has already been brought to it. What one employee deems as rude behavior could be seen as efficient and hardworking behavior by another employee, depending on how they interpret the situation.

While there has been research that explores how individual differences of employees predict their own counterproductive behaviors (Bolton, Becker, & Barber, 2010; Jensen & Patel, 2011; Ones & Viswesvaran, 2001; Spector, 2011), there has been far less research about how individual differences influence employees’ evaluation of their coworkers’ counterproductive behaviors (for an exception, see Sliter et al., 2015). I will now cover the most relevant individual differences that could be connected to multitasking and social judgments: polychronicity and trait anger.

Polychronicity

Polychronic individuals prefer working on multiple tasks simultaneously, whereas monochronic individuals prefer working on each task separately (Bluedorn, 2002; Bluedorn,
Kalliath, Strube, & Martin, 1999; Hall, 1983; Kaufman, Lane, & Lindquist, 1991). In the modern workplace, there is a perception that being an efficient worker requires multitasking behaviors; approximately 45% of U.S. workers report that they are expected to work on too many tasks at once (Manhart, 2004). Given that multitasking tends to be viewed as a valuable skill in the workplace, it is no surprise that polychronic individuals are generally judged as being more competent than monochronic individuals (Cotte & Ratneshwar, 1999). Undertaking multiple tasks almost simultaneously was evaluated as desirable. However, they did not examine whether observers’ levels of polychronicity influence the way they evaluated others’ multitasking behaviors, which is the focus of the current study. According to a recent model of technological multitasking perceptions (Bell et al., 2005) as well as earlier work by Bluedorn (2002), the preference of working on multiple tasks tends to be liked by others with the same preference, regardless of the types of tasks involved. This is because polychronicity does not specify any particular behavior; rather Bell et al. (2005) and Bluedorn (2002) describe individuals higher in polychronicity as having a preference for organizing activities a certain way and a belief that one’s preference is the best way to do things. Thus, I would expect those higher in polychronicity would view multitasking during a meeting as being productive because it gives the opportunity to work on additional tasks and be efficient, compared to those who are lower in polychronicity. This efficiency could also be seen as a benefit to the group, well intentioned, and thus more communal overall. Additionally, they would also regard less rudeness than those who are lower in polychronicity as their coworkers are not breaking any situational norms or expectations (Camacho et al., 2013).

_Hypothesis 5: Polychronicity will be negatively associated with rudeness perceptions of electronic multitasking behavior._
Hypothesis 6: Polychronicity will be positively associated with (a) agency and (b) communal perceptions of electronic multitasking behavior.

Polychronicity may also alter the influence of contextual cues (i.e., task switching and task relevance) on social judgments. With respect to task-switching behaviors, individuals who are higher in polychronicity will not recognize as much rudeness in situations where individuals are multitasking concurrently as they are also paying attention to the primary task. This behavior would not be considered a violation of the situational norms. However, individuals who are multitasking sequentially are disengaging from the primary task and thus could be evaluated as rude, even when the observer is high in polychronicity themselves. Thus, the shared attention to both tasks will reduce the effects of the negative social judgments of rudeness as they are displaying polychronic behaviors. Additionally, individuals who are higher in polychronicity would also tend to perceive concurrent multitasking as more agentic and communal, compared to sequential multitasking. This perception would be because they are more likely to see the shared attention between tasks as more efficient and potentially beneficial to group goals.

Alternatively, individuals who are lower on polychronicity will not have this reduced evaluation of rudeness for individuals multitasking concurrently. They would evaluate any shared attention as rude and thus will be likely to see both concurrent and sequential multitasking as a violation of social norms. This violation would occur as the individual is not giving her or his undivided attention to the task at hand. Moreover, individuals lower in polychronicity would tend to not discern the benefits from multitasking, regardless of the type of task switching. Thus, they would be likely to judge both concurrent and sequential multitasking as equally lower in agency and communalism.
Hypothesis 7: The effect of concurrent (compared to sequential) multitasking in reducing rudeness evaluations of multitasking behavior is weaker among people low in polychronicity than among people high in polychronicity.

Hypothesis 8: The effect of concurrent (compared to sequential) multitasking in increasing (a) agency and (b) communal evaluations of multitasking behavior is weaker among people low in polychronicity than among people high in polychronicity.

With respect to task relevance, individuals who are higher in polychronicity could view multitasking as being productive and not a violation of norms if they witness others multitasking on tasks that are relevant to the group goals. This is because the relevance of the task would account for the reason for shared attention between two tasks. However, in situations where the reason for multitasking is not relevant to the group goals or task at hand, they might instead view the multitasking behavior as a counterproductive meeting behavior. The relevance of the secondary task implies that the norms of the workplace are not being violated for those high in polychronicity. However, this assumption would not hold if the secondary tasks were not relevant to the group goals. While the observers who are higher in polychronicity might consider multitasking generally to be more efficient and productive, I expect that they will disregard this consideration if they observe coworkers working on irrelevant tasks. The efficiency that is expected from individuals who are multitasking would only hold if the secondary task is relevant. Additionally, observers will tend to see the cooperative nature of the multitasking if it is relevant to the group goal. However, I would not expect these evaluations to hold if the task is irrelevant to the primary task. Thus, they will not see the behavior as being communal, compared to individuals who are multitasking on secondary tasks that are relevant to the group goals.
Alternatively, individuals lower in polychronicity would not see the benefits that arise from multitasking even if it is relevant to the task at hand. Thus, I would expect that both irrelevant and relevant tasks to be judged as norm violations and so be evaluated as equally rude in both situations. Additionally, I would also not expect these individuals to discern the agency or communalism in task-relevant multitasking. Thus, I would expect them to have equally low ratings of agency and communalism, regardless of the relevance of the secondary task.

**Hypothesis 9:** The effect of task-relevant multitasking (compared to task-irrelevant multitasking) in reducing rudeness perceptions of multitasking behavior is weaker among people low in polychronicity than among people high in polychronicity.

**Hypothesis 10:** The effect of task-relevant multitasking (compared to task-irrelevant multitasking) in increasing (a) agency and (b) communal perceptions of multitasking behavior is weaker among people low in polychronicity than among people high in polychronicity.

Trait Anger

Trait anger is a facet of negative affect (NA) representing the tendency for individuals to perceive situations in a negative manner and respond to them with more anger and frustration (Spector, 2003). Trait anger is perhaps the most relevant aspect of negative affect for social norm violation situations (like counterproductive meeting behavior) because it is the primary emotional reaction that we have towards injustice (Hutcherson & Gross, 2011). There are also situations where others’ behaviors could lead to threats to the self, such as a work meeting context where individuals are expected to be a part of the group and thus contribute to the task at hand. The violation of these expectations could be interpreted as a threat to the self if individuals
are already predisposed towards anger. Additionally, anger is an important factor in how individuals negatively evaluate others’ intentions (Fischer & Roseman, 2007). Thus, I would expect it to bias how individuals engage in social judgments in the workplace.

Given that electronic multitasking during a work meeting can be a frustrating violation of norms, I would expect individuals higher in trait anger to evaluate the situation negatively and as more rude. Individuals with a higher NA tend to be overly responsive to negative stimuli (Larsen & Ketelaar, 1989, 1991); thus, I could also expect that individuals who are higher in trait anger will also be more responsive to negative stimuli such as norm violations and would be more likely to evaluate these violations as rude. Anger has also been linked to placing the blame on others (Roseman, 1996), leading to more negative social judgments than those individuals who are not predisposed to anger. These evaluations carry implications for the organization as it can also be connected to the emotion-centered model of counterproductive work behaviors (CWB; Spector & Fox, 2002). This model states that negative emotions will increase the likelihood that employees will engage in CWBs. That is, these negative emotions could also lead to employees choosing to engage in retaliatory behaviors like CWBs (Skarlicki & Folger, 1997) if they feel like they have been wronged, such as when their coworkers are being rude. Thus, negative emotions could lead to a bad work environment overall. As employees higher in trait anger are more likely to be emotionally reactive (Spector & Fox, 2002), I would also expect them to judge a counterproductive meeting behavior more negatively (Chen & Spector, 1992).

**Hypothesis 11:** Trait anger will be positively associated with rudeness evaluations of electronic multitasking behavior.

In relation to task-switching behaviors, individuals who are higher in trait anger are less likely to be affected by the different types of multitasking. Individuals who are higher in trait
anger will be more reactive overall and evaluate both types of task-switching behavior as rude, regardless of the attention that is paid to the primary task. However, social judgments of individuals lower in trait anger are more likely to be affected by the type of task-switching behavior involved. Because concurrent multitasking involves a shared attention to both tasks, observers of electronic multitasking who are lower on trait anger would be more likely to judge that behavior as less rude than those completely disengaging from the primary task.

In relation to task relevance, individuals who are higher in trait anger would be more likely to discern the violation of social norms from coworkers who are not giving their full attention to the primary task. This effect would hold regardless of the relevance of the secondary task. Given that these individuals are predisposed to evaluate situations negatively (Skarlicki & Folger, 1997), they are less likely to see the advantage that could be gained from multitasking on a relevant task and simply focus on the norm violation. However, individuals who are lower on trait anger will be more sensitive to these contextual effects and thus be more likely to distinguish the contrasting effects of each type of multitasking. That is, they would be less likely to evaluate task-relevant multitasking as rude, compared to task-irrelevant multitasking.

Hypothesis 12: The effect of concurrent (compared to sequential) multitasking in reducing rudeness evaluations of multitasking behavior is weaker among people high in trait anger than among people low in trait anger.

Hypothesis 13: The effect of task-relevant multitasking (compared to task-irrelevant multitasking) in reducing rudeness evaluations of multitasking behavior is weaker among people high in trait anger than among people low in trait anger.

If individuals are negatively biased and emotionally reactive, I would also expect that they would most likely not realize the benefits from multitasking in general. Thus, they are less
likely to see their coworkers as being agentic or efficient or those coworkers as being cooperative when they are multitasking. So I would expect lower evaluations of agency and communalism of individuals who are engaging in multitasking behaviors.

*Hypothesis 14: Trait anger will be negatively associated with (a) agency and (b) communal evaluations of electronic multitasking behavior.*

Furthermore, I would expect these negative evaluations to hold regardless of the attention paid to the primary task. That is, individuals who are higher in trait anger should be less likely to evaluate either concurrent or sequential multitasking as agentic or communal, as they are more likely to view multitasking in a negative light overall. However, individuals who are lower in trait anger are more likely to be influenced by the contextual factors; thus, I would expect them to be more responsive to the type of task-switching behavior involved. Specifically, individuals who are lower in trait anger will be more likely to evaluate concurrent multitasking as more agentic or communal, compared to sequential multitasking, because they are not completely disengaging from the primary task.

With respect to task relevance, individuals who are higher in trait anger are less likely to evaluate multitasking as having positive outcomes. Thus, they are less likely to judge the behavior as being highly agentic or communal, regardless of the relevance to the primary task. However, individuals who are lower in trait anger will be more likely to have differing judgments. I expect these individuals to be more likely to judge task-relevant multitasking as being more agentic and communal, compared to task-irrelevant multitasking. They would be more likely to judge bringing in additional information relevant to the meeting or staying available for other work-relevant tasks as being hardworking and cooperative.
Hypothesis 15: The effect of concurrent (compared to sequential) multitasking in increasing (a) agency and (b) communal evaluations of multitasking behavior is weaker among people high in trait anger than among people low in trait anger.

Hypothesis 16: The effect of task-relevant multitasking (compared to task-irrelevant multitasking) in increasing (a) agency and (b) communal evaluations of multitasking behavior is weaker among people high in trait anger than among people low in trait anger.
I conducted three studies to address the questions of how contextual factors and individual differences affect social judgments of electronic multitasking. The first study looked at how task-switching behaviors during multitasking (i.e., sequential or concurrent) will lead to differing perceptions of rudeness, agency, or communalism. Given Stephens’s (2012) distinction between the types of multitasking, I expect that those who are multitasking concurrently will be evaluated as less rude, more agentic, and more communal compared to those multitasking sequentially. This distinction will be driven by the level of engagement that the observer perceives given how much simultaneous attention is also paid to the primary task.

The second study focused more on how task relevance (relevance vs. irrelevance of the secondary task to the primary task) may affect the way observers rate the rudeness, agency or communalism of the multitasker. I would expect multitasking on a relevant activity to be rated as more productive and efficient compared to multitasking on an irrelevant activity, as per Turner and colleagues’ findings (2006). Thus, following from their work, relevant multitasking should also be evaluated as less rude, more agentic, and more communal compared to irrelevant multitasking.

I also explored whether these main effects of task-switching and task-relevant behaviors on social judgments are moderated by the rater level of polychronicity or trait anger. Research about individual differences (Kelly, 1955) discusses how the observer’s characteristics can
influence the judgments one forms about others. In the case of polychronic individuals, their preference for multitasking and belief that it is the most efficient way to work can influence their evaluations of others’ behaviors who are engaged in multitasking. Anger has been found to influence how individuals negatively evaluate others’ intentions (Fischer & Roseman, 2007); thus, it can be expected to also influence the way that they evaluate others’ behaviors. Those high in trait anger also tend to be more responsive to negative stimuli; therefore, sequential or irrelevant multitasking would be seen as more rude, less agentic, and less communal compared to those higher in trait anger.

Finally, the third study was conducted in an exploratory manner to investigate if the same pattern of results would hold when participants viewed all behaviors, compared to when they only viewed one behavior. This allowed them to compare between behaviors and was a realistic situation to what could happen in a work meeting where multiple coworkers could be engaged in different behaviors.

The first two studies were conducted online and participants were recruited through Amazon’s Mechanical Turk (MTurk). MTurk is an online crowdsourcing platform that has become widely used by social science researchers (Behrend, Sharek, Meade, & Wiebe, 2011). This recruitment strategy was chosen to obtain a diverse group of participants (Henrich, Heine, & Norenzayan, 2010) while still remaining as internally valid and externally valid as studies conducted in the laboratory or in the field (Horton, Rand, & Zeckhauser, 2011). Aguinis and colleagues (Aguinis & Edwards, 2014; Aguinis & Lawal, 2012) suggest that this method offers researchers a naturalistic setting while still holding experimental control. As I experimentally manipulated the different conditions participants were assigned to, this was an important factor to consider. There are some possible issues with MTurk that Landers and Behrend (2015) bring
up that will be addressed. For instance, repeated participation concerns are only problematic if I expected the results on measures to change. That is, in personality measures such as polychronicity and trait anger, I would not expect repeated participation to change responses. Another concern often brought up would be that of selection bias. However, that is a concern with all convenience samples and not a concern that I can address, as participants have the right to choose to participate in any research. Finally is the concern about the relevance to a working population, which is addressed by Henrich and colleagues (2010), who suggest that MTurk offers a diverse range of possible participants across occupational groups, age and ethnicity, and other demographic factors. Furthermore, an online platform was considered an appropriate option to test hypotheses exploring perceptions of electronic multitasking behaviors. The final study was conducted online with psychology students from a large midwestern university. Conditions were kept as similar as possible to the studies presented on MTurk. Thus, to prevent workers who already participated and may remember their ratings from responding again, a different platform was chosen.

I also chose to use vignettes with hypothetical situations to standardize the electronic multitasking behavior participants would be rating (including contextual factors). When examining evaluations of multitasking in real work environments, it is difficult to control for other factors that might affect evaluations of the multitasker (nature of the meeting, biases from previously interacting with colleague, meetings norms, etc.). Thus, this methodology helps increase inferences of internal validity when interpreting the results. Additionally, Greenberg and Eskew (1993) found that studies that employ scenarios are an adequate means for researchers to understand social judgments in an organizational context as long as the scenarios are realistic and highly specific. Even though people are not always aware of their own perceptions (Ajzen &
Fishbein, 1972), the simplicity of these vignettes and the likelihood that the participants have experienced similar situations should lead to more accurate ratings.
The goal of Study 1 was to determine how participants differentially view task-switching behaviors in multitasking (i.e., concurrent multitasking and sequential multitasking). I also examined how the observers’ polychronicity and trait anger predicted social judgments of multitasking as well as how these individual differences moderated the effects of task-switching behaviors on social judgments. MTurk participants saw one of two vignettes describing a coworker either concurrently multitasking or sequentially multitasking. In the concurrent multitasking condition, they were told that their coworker is sending emails *while* participating in a meeting. In the sequential multitasking condition, they were told that their coworker is sending emails *instead of* participating in a meeting. These words were highlighted in each vignette for emphasis.

After providing their reactions to the assigned scenario, participants filled out measures of individual difference factors, which include polychronicity, trait anger, and the Big Five personality factors. The Big Five personality measure was included to hide the fact that I am interested in their levels of polychronicity and trait anger as the central focus of the study.
Method

Participants and Procedure

The questionnaire for Study 1 was hosted on Qualtrics, an online survey software. This software also allowed for participant random assignment to experimental conditions related to contextual factors. Participants received a recruitment statement that briefly informed them about the topic of the study. Then they read an informed consent form, which elaborated on their rights as research participants and the eligibility criteria for participation (18 years or older). Those individuals who did not provide consent were not permitted to proceed to the study. If they provided consent, they were allowed to move on to the rest of the survey. They were then presented with a vignette (refer to Appendix B) and asked to make evaluations of the behavior. Upon completion of this task, they completed the individual difference factor measures. Once they were done, they were debriefed, thanked, and provided the payment compensation code for their time.

According to a G*Power analysis, a sample of 395 participants was needed to detect a significant result at $p = 0.05$ with a small effect size of 0.02 and power of 0.80 when running a linear multiple regression (fixed model, $R^2$ increase) with three predictors (two main effects and one interaction). I oversampled to 542 participants to account for participants having to be dropped for incomplete data, technical problems, or failing attention check items. I excluded participants who had duplicate IP addresses as a means of excluding participants who may have completed the survey multiple times ($n = 49$). Given that not properly accounting for missing data can lead to the analyses being vulnerable to violations of assumptions (Dong & Peng, 2013), participants were also excluded from analysis if they failed at least two out of the three attention
check items \((n = 28)\) that identify insufficient effort responding (Huang, Liu, & Bowling, 2015). After these deletions, the final sample size for data analysis was 465.

Slightly more than half of the sample identified as male (55% male) and a majority identified as White/Caucasian (78% White). As expected, they were older than a general undergraduate college sample \((M = 35.26, SD = 11.59)\) and a majority of my sample was employed at least part time (full time = 73%, part time = 13%).

**Measures**

**Social Judgments of Electronic Multitasking**

Perceptions of *rudeness* and intent was assessed using measures from Sliter et al. (2015). Rudeness was assessed with a single item, “How rude was the coworker?” Responses ranged from 1 (not rude at all) to 4 (extremely rude). Intent was also assessed through a single item, “Was harm intended by the coworker?” Responses included 1 (no intent to harm), 2 (ambiguous intent to harm), and 3 (clear intent to harm). Intent was included in addition to rudeness because incivility research states that employees tend to engage in norm violation for mutual respect, and this can be with or without intent (Pearson & Porath, 2005). However, even though an employee may not judge a coworker as being intentionally malicious or rude, one may still discern that rudeness, and this could still lead to negative outcomes in the workplace. See Appendix C.

*Agency* and *communalism* was assessed using 12 items from Fiske and colleagues (Fiske, Cuddy, Glick, & Xu, 2002; Agency \(\alpha = .89\) and Communalism \(\alpha = .91\)) in which participants were asked to rate how characteristic the coworker’s behavior was on a scale of 1 (not at all) to 5 (extremely), with terms such as competent (agentic) and friendly (communal).
Polychronicity

The participants’ polychronic preferences were captured using the 10-item Inventory of Polychronic Values, developed by Bluedorn and colleagues (1999; \( \alpha = .90 \)). This measure was originally developed to assess the organization’s attitudes and beliefs about polychronicity, but as per Bluedorn’s recommendation, it has been adapted to capture an individual’s views. It includes items such as, “I believe people should try to do many things at once.” Responses range from 1 (strongly disagree) to 7 (strongly agree). See Appendix D.

Big Five

The five personality factors were measured using the Mini Five Factor Personality Inventory from the International Personality Item Pool (20 items; Donnellan, Oswald, Baird, & Lucas, 2006; Extraversion \( \alpha = .86 \), Conscientiousness \( \alpha = .70 \), Neuroticism \( \alpha = .80 \), Openness \( \alpha = .80 \), and Agreeableness \( \alpha = .81 \)). Participants responded to the statements as they currently see themselves, and responses were on a 5-point scale from 1 (very inaccurate) to 5 (very accurate). This measure was included to hide the true nature of which personality factors were being measured. See Appendix E.

Trait Anger

Trait anger was measured using the 15 items from the Buss-Perry Scale (Buss & Perry, 1992) to assess the anger (\( \alpha = .88 \)) and hostility (\( \alpha = .88 \)) facets. I used the hostility facet to explore if it had any impact on the perceptions that employees draw from situations. Participants rated themselves in terms of how characteristic each item is of them. An example item is, “When frustrated, I let my irritation show.” Responses range from 1 (extremely uncharacteristic of me) to 7 (extremely characteristic of me). See Appendix F.
Attention Check Items

I included three attention check items (e.g., used in Barber, Barnes, & Carlson, 2013) to account for careless responding. They followed the respective scales of each individual difference measure where they are embedded. For example, an item embedded in the trait anger scale read, “Please select ‘extremely characteristic of me’” (see Appendix F). The other two items were embedded in the Big Five inventory and polychronicity measure (see Appendix E and D, respectively). Any illogical responses were scored as missed. Participants who missed two or more attention checks were excluded from the data for analyses.

Demographics

Participants filled out demographic information including age, ethnicity, and current employment status. See Appendix G.

Potential Covariates

*State sleepiness* has been shown to bias perceptions of general social interactions in past research (Barber & Budnick, 2015), as well as rudeness perceptions (Budnick & Barber, 2015). State sleepiness was measured using the Stanford Sleepiness Scale that asks how participants are feeling at the current moment. Responses range from 1 (feeling active, vital, alert, or wide awake) to 7 (no longer fighting sleep, sleep onset soon; having dream-like thoughts). See Appendix G.

Gender could bias results, as it has been shown to influence polychronic tendencies, with women reporting a generally higher level of polychronicity than men (Bluedorn, 2002). Additionally, Sliter et al. (2015) also found that women tend to perceive a higher level of incivility compared to men, which indicated that women might be more sensitive to norm violations than men. Thus, I considered accounting for gender in my analysis. See Appendix G.
Results

Results were analyzed in SPSS version 22. Tables were formatted in R using the APA-Tables package (Stanley, 2015). A principal assumption used when using ordinal least squares regression is that there should be a linear relationship between the independent and dependent variables of interest and that extraneous IVs are not included in the model. Additionally, there should be homoscedasticity of variance along with independence and normality of the residuals. These assumptions were checked with the AutoModel (Lishinski, 2015) R package. The results indicated that the assumptions were met.

I did not exclude participants if they failed to respond to items; rather, I used each person’s available responses to represent the construct of interest (Newman, 2014). This rule was only applied for multi-item scales and thus was not applied to the analysis of rudeness, as that was measured using one item. There were 40 participants with at least one value missing in the multi-item scales. Thus, this method was applied to their results.

Preliminary Analyses

Manipulation checks. Manipulation checks were included to assess whether participants actually perceived the behavior as multitasking or not. Additionally, I also asked how much they perceived their coworker to be participating in the meeting. Interestingly, most participants did not judge their coworker to be multitasking (62.3% reported “no”), and that did not significantly differ by grouping condition, \( t(457) = -.93, p = .354 \). However, while they did not perceive multitasking, there was a difference in how much they perceived their coworker to be participating in the meeting depending on their grouping condition, \( t(462) = -4.71, p < .001 \). It must be noted that the level of participation perceptions was relatively low overall, with those in
the sequential condition \((M = 1.74, SD = .77)\) reporting a lower level of participation by their coworker than those in the concurrent condition \((M = 2.10, SD = .86)\). While lower than expected, the results are in the expected direction. It seems like the word “multitasking” deterred participants from responding as expected. However, those group differences did appear in the question about participation, leading me to believe that participants were noticing group differences but did not seem to like the word “multitasking.”

To ensure that gender was not a significant influence on either polychronicity or perceptions of rudeness, both of those relationships were explored. There were no significant differences between men and women in regards to their reporting of polychronicity preferences, \(t(455) = -3.70, p = .828\). A similar pattern of non-significance was seen in regards to perceptions of rudeness, \(t(451) = 0.05, p = .424\).

**Exploratory analyses.** As expected, participants who viewed the concurrent multitasking condition described that coworker as having less intent to harm them \((r = -.11, p = .016)\). If they did express the coworker having more intent, they denoted that the behavior was less communal \((r = -.11, p = .022)\). I also checked to ensure that sleepiness did not influence any relationships and the relationships with sleepiness were mostly as expected. Those who reported that they were sleepier were more angry \((r = .17, p < .001)\), hostile \((r = .19, p < .001)\), and neurotic \((r = .20, p < .001)\) and less extraverted \((r = -.10, p = .034)\), agreeable \((r = -.13, p = .006)\), and conscientious \((r = -.21, p < .001)\). However, what is interesting is the relationship with rudeness, in which those who were sleepier actually reported less rudeness \((r = -.10, p = .036)\) from the coworker’s behavior. This is contradictory to what I would expect as individuals generally tend to have a negativity bias when they are sleepier (Barber & Budnick, 2015).
I also examined exploratory correlations between the Big Five measures and my outcomes and found some interesting relationships. Rudeness was positively related to agreeableness ($r = .13, p = .007$), conscientiousness ($r = .19, p < .001$), and openness ($r = .11, p = .016$) and negatively related to neuroticism ($r = -.12, p = .012$). Both agency ($r = -.17, p < .001$) and communalism ($r = -.15, p = .002$) were negatively related to conscientiousness, but only agency was negatively related to openness ($r = -.12, p = .012$) and positively related to neuroticism ($r = .12, p = .011$). Finally, replicating past research (Sliter et al., 2015), anger was positively related to neuroticism ($r = .63, p < .001$) and negatively related to agreeableness ($r = -.15, p = .001$), conscientiousness ($r = -.34, p < .001$), and openness ($r = -.10, p = .039$).

All means and standard deviations for the key study variables, along with correlations, are presented in Table 1.

**Hypothesis Tests**

Hypotheses 1 (task switching main effect), 5 (polychronicity main effect), and 7 (task switching by polychronicity interaction) were tested using a moderated multiple regression model in which the dependent variable was the judgments of rudeness and the independent variables were the task switching condition and polychronicity. In step one, the dichotomous task switching condition was added to the model. It was dummy coded so that concurrent = 1 and sequential = 0. In step two, the continuous polychronicity moderator was added to the model. In step three, the interaction term for task switching condition by polychronicity was entered. Results are presented in Table 2.

**Hypothesis 1**

Hypothesis 1 predicted that evaluations of rudeness would be lower in the concurrent multitasking condition compared to the sequential multitasking condition. There was no evidence
Table 1

Descriptive Statistics and Correlations Among Study Variables in Study 1

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<tr>
<th>Variable</th>
<th>M</th>
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<td>8. Communalism</td>
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<td>.20*</td>
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<td>.05</td>
<td>.17*</td>
<td>.06</td>
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<td>.29*</td>
<td>.16*</td>
<td>.11*</td>
<td>(.88)</td>
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<td>11. Hostility</td>
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<td>.18*</td>
<td>.10*</td>
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<td>(.88)</td>
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<td>-.00</td>
<td>-.06</td>
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<td>13. Agreeableness</td>
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<td>14. Conscientiousness</td>
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<td>-.05</td>
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<td>.19*</td>
<td>-.17*</td>
<td>-.15*</td>
<td>-.16*</td>
<td>-.34*</td>
<td>-.29*</td>
<td>.03</td>
<td>.20*</td>
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<td>15. Neuroticism</td>
<td>2.50</td>
<td>0.97</td>
<td>.02</td>
<td>.12*</td>
<td>.07</td>
<td>.20*</td>
<td>.04</td>
<td>-.12*</td>
<td>.12*</td>
<td>.05</td>
<td>.00</td>
<td>.63*</td>
<td>.59*</td>
<td>-.29*</td>
<td>-.04</td>
<td>-.34*</td>
<td>(.80)</td>
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<tr>
<td>16. Openness</td>
<td>3.43</td>
<td>0.53</td>
<td>.02</td>
<td>-.10*</td>
<td>-.00</td>
<td>-.04</td>
<td>-.04</td>
<td>.11*</td>
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<td>-.08</td>
<td>.15*</td>
<td>.34*</td>
<td>.07</td>
<td>.03</td>
<td>(.80)</td>
</tr>
</tbody>
</table>

Note. * indicated p < .05.
M and SD are used to represent mean and standard deviation respectively.
Cronbach’s alphas are reported in parentheses on the diagonal for all measures with multiple items.
For group, sequential = 0 and concurrent = 1
Table 2

Results of Multiple Regression Analyses with Task Switching Condition and Polychronicity on Rudeness, Agency, and Communalism

<table>
<thead>
<tr>
<th></th>
<th>Rudeness</th>
<th></th>
<th></th>
<th>Agency</th>
<th></th>
<th></th>
<th>Communalism</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>b</td>
<td>SE</td>
<td>beta</td>
<td>b</td>
<td>SE</td>
<td>beta</td>
<td>b</td>
<td>SE</td>
<td>beta</td>
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<tr>
<td>Step 1</td>
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<td></td>
</tr>
<tr>
<td>(Intercept)</td>
<td>3.12**</td>
<td>0.05</td>
<td>2.05**</td>
<td>0.06</td>
<td>2.21**</td>
<td>0.07</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Task Switching Condition</td>
<td>0.02</td>
<td>0.08</td>
<td>0.01</td>
<td>0.02</td>
<td>0.08</td>
<td>0.01</td>
<td>-0.02</td>
<td>0.09</td>
<td>-0.01</td>
<td></td>
</tr>
<tr>
<td>Model Fit</td>
<td>F(1, 459) = 0.08, $R^2 = .000$</td>
<td>F(1, 462) = 0.08, $R^2 = .000$</td>
<td>F(1, 462) = 0.05, $R^2 = .000$</td>
<td></td>
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<td>Fit Change</td>
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<td>Step 2</td>
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<tr>
<td>(Intercept)</td>
<td>3.64**</td>
<td>0.13</td>
<td>1.45**</td>
<td>0.14</td>
<td>1.58**</td>
<td>0.15</td>
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<tr>
<td>Task Switching Condition</td>
<td>0.00</td>
<td>0.08</td>
<td>0.00</td>
<td>0.04</td>
<td>0.08</td>
<td>0.02</td>
<td>0</td>
<td>0.09</td>
<td>0.00</td>
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</tr>
<tr>
<td>Polychronicity</td>
<td>-0.15**</td>
<td>0.03</td>
<td>-0.21</td>
<td>0.17**</td>
<td>0.04</td>
<td>0.21</td>
<td>0.18**</td>
<td>0.04</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td>Model Fit</td>
<td>F(2, 458) = 10.25, $R^2 = .043$</td>
<td>F(2, 461) = 11.16, $R^2 = .046$</td>
<td>F(2, 461) = 10.03, $R^2 = .042$</td>
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</tr>
<tr>
<td>Fit Change</td>
<td>F(1, 458) = 20.43, $\Delta R^2 = .043^*$</td>
<td>F(1, 461) = 22.24, $\Delta R^2 = .046^*$</td>
<td>F(1, 461) = 20.00, $\Delta R^2 = .042^*$</td>
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<tr>
<td>Step 3</td>
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<tr>
<td>(Intercept)</td>
<td>3.54**</td>
<td>0.18</td>
<td>1.46**</td>
<td>0.19</td>
<td>1.67**</td>
<td>0.21</td>
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<td>Task Switching Condition</td>
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<td>0.27</td>
<td>0.00</td>
<td>-0.17</td>
<td>0.29</td>
<td>-0.08</td>
<td></td>
</tr>
<tr>
<td>Polychronicity</td>
<td>-0.12*</td>
<td>0.05</td>
<td>-0.17</td>
<td>0.17**</td>
<td>0.05</td>
<td>0.21</td>
<td>0.16**</td>
<td>0.06</td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>I(Task Switching Condition * Polychronicity)</td>
<td>-0.05</td>
<td>0.07</td>
<td>-0.12</td>
<td>0.01</td>
<td>0.07</td>
<td>0.02</td>
<td>0.05</td>
<td>0.08</td>
<td>0.09</td>
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<tr>
<td>Model Fit</td>
<td>F(3, 457) = 7.05, $R^2 = .044$</td>
<td>F(3, 460) = 7.43, $R^2 = .046$</td>
<td>F(3, 460) = 6.80, $R^2 = .042$</td>
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<tr>
<td>Fit Change</td>
<td>F(1, 457) = 0.65, $\Delta R^2 = .001$</td>
<td>F(1, 460) = 0.02, $\Delta R^2 = .000$</td>
<td>F(1, 460) = 0.36, $\Delta R^2 = .001$</td>
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</tbody>
</table>

Note. * indicates $p < .05$. A significant $b$-weight indicates the beta-weight and semi-partial correlation are also significant. $b$ represents unstandardized regression weights; $SE$ represents the standard error of the unstandardized regression weights; $beta$ indicates the beta-weights or standardized regression weights. For task switching condition effects, 1 = concurrent and 0 = sequential.
for an effect of task-switching behavior on rudeness (β = .01, p = .781). Thus, Hypothesis 1 was not supported.

**Hypothesis 5**

Hypothesis 5 predicted that there would be a negative relationship between perceptions of rudeness and the observers’ polychronicity. Results indicated that polychronicity did have a statistically significant effect on rudeness beyond task switching effects, \( F(1, 458) = 20.43, \Delta R^2 = .043 \). Specifically, observer polychronicity was negatively correlated with perceptions of rudeness (β = -.21, \( p < .001 \)). Thus, Hypothesis 5 was supported.

**Hypothesis 7**

Hypothesis 7 examined if there was a two-way interaction between task switching conditions and polychronicity in predicting ratings of rudeness. Specifically, task-switching behavior that is done concurrently would be rated as significantly less rude than sequential task switching, but this relationship will only be significant when individuals are high in polychronicity. Results indicated that the polychronicity by task switching condition did not significantly predict perceptions of rudeness beyond main effects, \( F(1, 457) = .65, p = .422, \Delta R^2 = .001 \). Thus, Hypothesis 7 was not supported.

Hypotheses 3a-b (task switching main effects), 6a-b (polychronicity main effects), and 8a-b (task switching by polychronicity interactions) were tested using two moderated multiple regression models in which the dependent variables were (a) agency and (b) communalism respectively, and the independent variables were the task switching condition and polychronicity. In step one, the dichotomous task switching condition was added to the model. It was dummy coded so that concurrent = 1 and sequential = 0. In step two, the continuous polychronicity moderator was added to the model. In step three, the interaction term for the task switching
condition by polychronicity was entered. These results are also presented in Table 2 and discussed below.

**Hypothesis 3a**

Hypothesis 3a predicted that the concurrent multitasking condition would be evaluated as more agentic than the sequential multitasking condition. I did not find evidence for an effect of task-switching behavior on judgments of agency ($\beta = .01, p = .777$). Thus, Hypothesis 3a was not supported.

**Hypothesis 3b**

Hypothesis 3b predicted that the concurrent multitasking condition would be evaluated as more communal than the sequential multitasking condition. There was no evidence for an effect between task-switching behavior on judgments of communalism ($\beta = -.01, p = .820$). Thus, Hypothesis 3b was not supported.

**Hypothesis 6a**

Hypothesis 6a predicted that there would be a positive relationship between evaluations of agency and the observer’s polychronicity. Results indicated that polychronicity did have a statistically significant effect on agency, beyond task switching effects, $F(1, 461) = 22.24, \Delta R^2 = .046$. Specifically, observer polychronicity was positively correlated with evaluations of agency ($\beta = .22, p < .001$). Thus, Hypothesis 6a was supported.

**Hypothesis 6b**

Hypothesis 6a predicted that there would be a positive relationship between evaluations of communalism and the observer’s polychronicity. Results indicated that polychronicity did have a statistically significant effect on communalism, beyond task switching effects, $F(1, 461) =$
20.00, $\Delta R^2 = .042$. Specifically, observer polychronicity was positively correlated with evaluations of communalism ($\beta = .20$, $p < .001$). Thus, Hypothesis 6b was supported.

Hypothesis 8a

Hypothesis 8a examined if there was a two-way interaction between task switching conditions and polychronicity in predicting ratings of agency. Specifically, task-switching behavior that is done concurrently would be rated as significantly more agentic than sequential task switching, but this relationship will only be significant when individuals are high in polychronicity. Results indicated that the polychronicity by task switching condition did not significantly predict evaluations of agency, $F(1, 460) = .02, p = .886, \Delta R^2 = .000$. Thus, Hypothesis 8a was not supported.

Hypothesis 8b

Hypothesis 8b examined if there was a two-way interaction between task switching conditions and polychronicity in predicting ratings of communalism. Specifically, task-switching behavior that is done concurrently would be rated as significantly more communalism than sequential task switching, but this relationship will only be significant when individuals are high in polychronicity. Results indicated that the polychronicity by task switching condition did not significantly predict evaluations of communalism, $F(1, 460) = .36, p = .551, \Delta R^2 = .001$. Thus, Hypothesis 8b was not supported.

The effects in Hypotheses 1, 3a, and 3b are shown in Figure 1. The effects in Hypotheses 5, 6a, and 6b are shown in Figure 2. Finally, the effects in Hypotheses 7, 8a, and 8b are shown in Figure 3.

Hypotheses 11 (trait anger main effect) and 12 (task switching by trait anger interaction) were tested using a moderated multiple regression model in which the dependent variable was
Figure 1. Difference in Evaluations of Rudeness, Agency, and Communalism Between Sequential Multitasking and Concurrent Multitasking
Figure 2. The Relationship Between Evaluations of Rudeness, Agency, and Communalism and Polychronicity
Figure 3. The Interaction Between the Level of Engagement (Concurrent vs. Sequential) and Polychronicity on the Evaluations of Rudeness, Agency, and Communalism
trait anger moderator was added to the model. In step three, the interaction term for the task switching condition by trait anger was entered. Results are presented in Table 3 and discussed in more detail below.

**Hypothesis 11**

Hypothesis 11 predicted that there would be a positive relationship between evaluations of rudeness and the observer’s trait anger. Results indicated that trait anger did have a statistically significant effect on rudeness, beyond task switching effects, $F(1, 453) = 16.89$, $\Delta R^2 = .036$. Specifically, observer trait anger was negatively correlated with perceptions of rudeness ($\beta = -.19$, $p < .001$). This relationship was in the opposite direction than hypothesized, thus Hypothesis 11 was not supported.

**Hypothesis 12**

Hypothesis 12 examined if there was a two-way interaction between task switching conditions and trait anger in predicting ratings of rudeness. Specifically, task-switching behavior that is done sequentially would be rated as significantly more rude than concurrent task switching, but this relationship will only be significant when individuals are low in trait anger. Results indicated that the trait anger by task switching condition did not significantly predict perceptions of rudeness, $F(1, 452) = .01$, $p = .946$, $\Delta R^2 = .000$. Thus, Hypothesis 12 was not supported.

Hypotheses 14 a-b (trait anger main effects) and 15a-b (task switching by trait anger interactions) were tested using two moderated multiple regression models in which the
Table 3
Results of Multiple Regression Analyses with Task Switching Condition and Trait Anger on Rudeness, Agency, and Communalism

<table>
<thead>
<tr>
<th>Step</th>
<th>(Intercept)</th>
<th>Task Switching Condition</th>
<th>Trait Anger</th>
<th>I(Task Switching Condition * Trait Anger)</th>
</tr>
</thead>
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<td>Rudeness</td>
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<td>0.02</td>
<td>-0.12**</td>
<td>-0.05</td>
</tr>
<tr>
<td>Agency</td>
<td>2.06**</td>
<td>0.01</td>
<td>0.20**</td>
<td>0.00</td>
</tr>
<tr>
<td>Communalism</td>
<td>2.21**</td>
<td>-0.02</td>
<td>0.12**</td>
<td>-0.03</td>
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</table>

<table>
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<tr>
<th>b</th>
<th>SE</th>
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<th>b</th>
<th>SE</th>
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<th>beta</th>
</tr>
</thead>
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<td>3.12**</td>
<td>0.05</td>
<td>2.06**</td>
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<td>0.07</td>
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<td></td>
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<td>Task Switching Condition</td>
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<td>0.08</td>
<td>0.01</td>
<td>0.09</td>
<td>0.01</td>
<td>-0.02</td>
<td>0.09</td>
<td>-0.01</td>
</tr>
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<td>Model Fit</td>
<td>F(1, 454) = 0.07, R² = .000</td>
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</tr>
<tr>
<td>Fit Change</td>
<td>F(1, 457) = 0.03, R² = .000</td>
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<tr>
<td>Step 2</td>
<td>3.46**</td>
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<td>1.47**</td>
<td>0.11</td>
<td>1.85**</td>
<td>0.12</td>
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</tr>
<tr>
<td>Task Switching Condition</td>
<td>0.01</td>
<td>0.08</td>
<td>0.00</td>
<td>0.02</td>
<td>0.08</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.09</td>
</tr>
<tr>
<td>Trait Anger</td>
<td>-0.12**</td>
<td>0.03</td>
<td>-0.19</td>
<td>0.20**</td>
<td>0.03</td>
<td>0.29</td>
<td>0.12**</td>
<td>0.03</td>
</tr>
<tr>
<td>Model Fit</td>
<td>F(2, 453) = 8.48, R² = .036</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fit Change</td>
<td>F(1, 453) = 16.89, ΔR² = .036**</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Step 3</td>
<td>3.46**</td>
<td>0.13</td>
<td>1.47**</td>
<td>0.14</td>
<td>1.81**</td>
<td>0.15</td>
<td></td>
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</tr>
<tr>
<td>Task Switching Condition</td>
<td>0.02</td>
<td>0.18</td>
<td>0.01</td>
<td>0.03</td>
<td>0.20</td>
<td>0.02</td>
<td>0.08</td>
<td>0.22</td>
</tr>
<tr>
<td>Trait Anger</td>
<td>-0.12**</td>
<td>0.04</td>
<td>-0.19</td>
<td>0.20**</td>
<td>0.04</td>
<td>0.29</td>
<td>0.14**</td>
<td>0.05</td>
</tr>
<tr>
<td>I(Task Switching Condition * Trait Anger)</td>
<td>-0.05</td>
<td>0.06</td>
<td>-0.01</td>
<td>0.00</td>
<td>0.06</td>
<td>-0.01</td>
<td>-0.03</td>
<td>0.07</td>
</tr>
<tr>
<td>Model Fit</td>
<td>F(3, 452) = 5.64, R² = .036</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Fit Change</td>
<td>F(1, 452) = 0.00, ΔR² = .000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. * indicates p < .05. A significant b-weight indicates the beta-weight and semi-partial correlation are also significant. b represents unstandardized regression weights; SE represents the standard error of the unstandardized regression weights; beta indicates the beta-weights or standardized regression weights; sr² represents the semi-partial correlation squared; r represents the zero-order correlation. For task switching condition effects, 1 = concurrent and 0 = sequential.
dependent variables were (a) agency and (b) communalism respectively, and the independent variables were the task switching condition and trait anger. In step one, the dichotomous task switching conditions were added to the model. They were dummy coded so that concurrent = 1 and sequential = 0. In step two, the continuous trait anger moderator was added to the model. In step three, the interaction term for the task switching condition by trait anger was entered. Results are presented in Table 3 and discussed in more detail below.

Hypothesis 14a

Hypothesis 14a predicted that there would be a negative relationship between evaluations of agency and the observer’s trait anger. Results indicated that trait anger did have a statistically significant effect on judgments of agency, beyond task switching effects, \( F(1, 456) = 42.06, \Delta R^2 = .084 \). Specifically, observer trait anger was positively correlated with evaluations of agency (\( \beta = .29, p < .001 \)). While significant, this relationship was in the opposite direction than hypothesized. Thus, Hypothesis 14a was not supported.

Hypothesis 14b

Hypothesis 14a predicted that there would be a negative relationship between evaluations of communalism and the observer’s trait anger. Results indicated that trait anger did have a statistically significant effect on judgments of communalism, beyond task switching effects, \( F(1, 456) = 12.65, \Delta R^2 = .027 \). Specifically, observer trait anger was positively correlated with evaluations of communalism (\( \beta = .16, p < .001 \)). While significant, this relationship was in the opposite direction than hypothesized. Thus, Hypothesis 14b was not supported.

Hypothesis 15a

Hypothesis 15a examined if there was a two-way interaction between task switching conditions and trait anger in predicting ratings of agency. Specifically, task-switching behavior
that is done sequentially would be rated as significantly less agentic than concurrent multitasking, but this relationship will only be significant when individuals are low in trait anger. Results indicated that the trait anger by task switching condition did not significantly predict evaluations of agency, $F(1, 455) = .01, p = .941, \Delta R^2 = .000$. Thus, Hypothesis 15a was not supported.

**Hypothesis 15b**

Hypothesis 15b examined if there was a two-way interaction between task switching conditions and trait anger in predicting ratings of communalism. Specifically, task switching behavior that is done sequentially would be rated as significantly more communal than concurrent multitasking, but this relationship will only be significant when individuals are low in trait anger. Results indicated that the trait anger by task switching condition did not significantly predict evaluations of communalism, $F(1, 455) = .20, p = .653, \Delta R^2 = .000$. Thus, Hypothesis 15b was not supported.

The effects discussed in Hypotheses 11, 14a, and 14b are depicted in Figure 4 below, and the effects discussed in Hypotheses 12, 15a, and 15b are depicted in Figure 5 below.

**Discussion**

The results indicated no group differences in evaluations of rudeness, agency, or communalism between concurrent and sequential multitasking conditions. These findings suggest that individuals are not focusing on the level of engagement with the primary work task (group meeting participation) when evaluating multitasking behavior. Rather, people may be evaluating
the multitasker negatively based on the fact that the coworker is not providing undivided attention to the task at hand. This is surprising in light of the general desire organizations seem to have for individuals who claim to be able to multitask (Judd, 2013; Kleinman, 2009). In a meeting setting, leaders even encourage multitasking if it improves productivity (Reinsch et al., 2008), which may suggest that something other than engagement is affecting multitasking evaluations, such as the multitasking activity itself. However, the impact on productivity was expected to be displayed by those who had sustained attention to the primary task – in the concurrent multitasking condition.

Furthermore, it was interesting to note that the results of polychronicity with the outcome measures was as expected. That is, those individuals who were higher in polychronicity were more likely to judge multitasking behavior as being less rude, more agentic, and more communal than those who were lower in polychronicity. Given that those who are high in polychronicity prefer to work on multiple tasks simultaneously and have the belief that their way is the best way to do things (Bluedorn et al., 1999), the results are in line with study expectations. Their belief that multitasking is the most efficient way to work leads to their positive evaluations of such behavior.

However, trait anger was unusual in that the relationships were in the opposite direction than predicted. That is, individuals who were higher in trait anger viewed multitasking behavior as being less rude, more agentic, and more communal than those who were lower in trait anger. Given that individuals who are high in trait anger generally tend to evaluate situations in a negative light and react in more anger (Spector, 2003), I expected those who were higher in trait anger to have harsher perceptions of multitasking. This would be corroborated by the Fisher and Roseman’s (2007) finding that anger is an important factor in how individuals negatively
Figure 4. The Relationship Between Evaluations of Rudeness, Agency, and Communalism and Trait Anger
Figure 5. The Interaction Between the Level of Engagement (Concurrent vs. Sequential) and Trait Anger on the Evaluations of Rudeness, Agency, and Communalism
evaluate others’ intentions. Thus, these results were surprising given that they are all in the opposite direction. While interesting, I am cautious to speculate on reasoning behind this until it is replicated in a second sample. Thus, I also tested this relationship in Study 2 to further explore the finding.

While I did not find any differences in judgments based on the coworker’s engagement level, past research suggests that negative evaluations are generally mitigated as long as performance is not affected (Reinsch et al., 2008). A way to show that performance is not affected (and actually improved) may include emphasizing the relevance of the secondary task (multitasking) to the primary task (the meeting). Thus, viewing a coworker who is multitasking on a work-related task may aid in the mitigation of the negative evaluations that could be formed. This was further explored in the next study.
CHAPTER 6

STUDY 2

Study 1 sought to determine how people would view the different types of multitasking behavior (sequential vs. concurrent) when the nature of the secondary task was irrelevant to the primary task. This study was used to determine if participants view electronic multitasking differently when the secondary task during multitasking is clearly relevant or irrelevant to the meeting task. Thus, I hypothesized that relevant multitasking would be judged as less rude, more agentic, and more communal when compared to irrelevant multitasking. Additionally, I also tested if these relationships would be moderated by the individual differences of polychronicity and trait anger. I chose to focus only on concurrent multitasking in this condition, as that is what comes to mind when most people think of multitasking behavior.

Participants in Study 2 saw one of two vignettes describing a coworker electronically multitasking. In one condition, the coworker is working on a secondary task irrelevant to the primary meeting task (i.e., sending emails to friends to plan a happy hour). In the other condition the secondary task is relevant (i.e., sending emails to other members of the creative team with information regarding the product; refer to Appendix B). After providing their responses to the scenario with respect to social judgments (rudeness, agency, and communalism), participants filled out measures of individual difference factors identical to Study 1 (i.e., polychronicity, the Big Five personality factors, and trait anger).
Method

Participants and Procedure

I conducted a G*Power analysis to estimate the number of participants needed to detect a significant result at \( p = 0.05 \) with a small effect size of 0.02 and power of 0.80 when running a linear multiple regression (fixed model, \( R^2 \) increase) with three predictors (two main effects and one interaction). That is, I conducted moderated regression to explore the effects that I expected. I needed 395 participants to detect a significant effect. Therefore, I oversampled to 525 participants to account for participants having to be dropped for incomplete data, technical problems, or failing attention check items. I excluded participants who had duplicate IP addresses as a means of excluding participants who may have completed the survey multiple times \( (n = 18) \). I also excluded participants who had failed at least two out of the three attention check items \( (n = 30) \) that identify insufficient effort responding (Huang et al., 2015). After these exclusions, the final sample size for data analysis was 477. I was unable to ensure that participants who completed Study 1 did not also complete Study 2 as I was not able to link MTurk IDs to the data. I had 88 participants who completed both Study 1 and Study 2. However, it is possible that this number is substantially lower after the data was cleaned. Additionally, as the studies were two months apart, it is probable that participants had forgotten responses they had previously indicated.

Participants had to be 18 years old or older to be eligible to participate in the study. They received a recruitment statement, which briefly informed them about the topic of the study. If those chose to participate, they were provided with an informed consent form, which elaborated on their rights as research participants and the eligibility criteria for participation. Those
individuals who did not provide us with their consent were not permitted to proceed to the study. If they provided consent, they were moved on to the rest of the survey. They were then presented with vignettes (refer to Appendix B) and asked to make evaluations of the behavior. Upon completion of this task, they completed the individual difference factor measures. Once they were done, they were debriefed, thanked, and provided the payment compensation code for their time. The same measures that were used in Study 1 was also used in Study 2.

Results

As in Study 1, results were analyzed in SPSS version 22. The principal assumptions used when using ordinal least squares regression include that there should be a linear relationship between the independent and dependent variables of interest and that extraneous IVs are not included in the model. Additionally, there should be homoscedasticity of variance, along with independence and normality of the residuals. These assumptions were checked with the AutoModel (Lishinski, 2015) R package. The Shapiro-Wilks test was found to be significant, which indicates that the assumption of homoscedasticity of variance was not met. It must be noted that this violation of homoscedasticity was related to the estimated residuals and not the independent variables or dependent variables (Barker & Shaw, 2015). However, this test is often statistically significant with large sample sizes (Barker & Shaw, 2015), like for this study. Thus, I followed the test up with other tests of normality. The studentized Breusch-Pagan test and the non-constant variance score test were both non-significant, implying stronger evidence for homoscedasticity assumptions not being met. Given that regression tends to be fairly robust against minor violations of normality (Hayes, 2013), variables were not transformed for
analyses. However, as these tests showed non-normality, graphical methods in the form of a Q-Q plot was used to assess the degree of severity. Results demonstrate a relatively straight line and thus the deviation from normality was found to be not severe.

Participants were not excluded if they failed to respond to items; rather, I used each person’s available responses to represent the construct of interest (Newman, 2014). This rule could not be applied to the analysis of rudeness as it was a single item measure. Rather, it was only applicable for multi-item scales. There were 64 participants with at least one value missing in the multi-item scales. Thus, this method was applied to their results. The remaining 477 participants used for analyses were similar to Study 1 in that they were approximately half male (54% male) and a majority identified as White/Caucasian (76% White). Similarly, they were older than the general undergraduate population ($M = 36.58, SD = 11.19$) and a majority was employed at least part time (full time = 74%, part time = 15%).

**Preliminary Analyses**

**Manipulation checks.** Manipulation checks were included to assess whether participants actually perceived the behavior as multitasking or not. Additionally, I also asked how much they perceived their coworker to be participating in the meeting. As expected, participants rated those who were multitasking for relevant purposes ($M = 2.81, SD = 1.02$) to be participating in the meeting more than those who were multitasking for irrelevant purposes ($M = 2.17, SD = 0.84$), $t(473) = -7.44, p < .001$. Further, participants judged the behavior they witnessed as multitasking more than half the time (58.5% reported “yes”). This also differed by grouping condition $t(466) = -7.08, p < .001$. In the irrelevant condition, only 43.5% reported that they witnessed multitasking behavior, whereas in the relevant condition, 74.2% reported that they had witnessed multitasking behavior. Following up from Study 1, I also asked participants why they named the behavior as
multitasking or not in Study 2. The data confirmed the potential reason I had for the results in Study 1. It appears that participants were noticing group differences but were adamant that “multitasking is a myth” and “it is impossible to work on two tasks simultaneously.” These comments, along with other similar comments led me to believe that participants in Study 1 also could have noticed these group differences but simply had an aversion to the word “multitasking.”

Levene’s test was significant for both these tests, which indicates that the variances between the groups is not equal, and that can influence the Type 1 error rate. Thus, I followed up all the tests with respective Mann-Whitney U tests as they do not require the assumption of normality, and the results were corroborated. For the test of multitasking, irrelevant multitasking was reported less than in the case of relevant multitasking, \( U = 18,958.50, p < .001 \). For the test of participation, those multitasking for irrelevant purposes were reported as participating less than those who were multitasking for relevant purposes, \( U = 18,490.50, p < .001 \).

To ensure that gender was not a significant influence on either polychronicity or perceptions of rudeness, both of those relationships were explored. There were no significant differences between men and women in regards to their reporting of polychronicity preferences, \( t(471) = -3.64, p = .967 \). A similar pattern of non-significance was seen in regards to perceptions of rudeness, \( t(469) = -1.071, p = .696 \).

**Exploratory analyses.** As expected, those who witnessed relevant multitasking reported that their coworker was participating more \( (r = .32, p < .001) \) and multitasking more \( (r = .31, p < .001) \), compared to those who witnessed irrelevant multitasking. Furthermore, they also reported that their coworkers had less intent to harm them \( (r = -.15, p = .001) \), was less rude \( (r = -.31, p < .001) \) and more agentic \( (r = .34, p < .001) \) and communal \( (r = .26, p < .001) \) compared to
those who were multitasking for irrelevant purposes. As could be expected there was a positive relationship between perceptions of participation and multitasking \( r = .46, p < .001 \), agency \( r = .62, p < .001 \), communalism \( r = .51, p < .001 \), and polychronicity \( r = .18, p < .001 \) and a negative relationship between perceptions of participation and intent \( r = -.13, p = .006 \) and rudeness \( r = -.54, p < .001 \). In contrast to Study 1, I found an expected positive relationship between sleepiness and anger \( r = .26, p < .001 \) and hostility \( r = .27, p < .001 \). There was also a strong positive relationship between agency and communalism \( r = .83, p < .001 \), which could explain the similar pattern of results that were found in the following results.

Furthermore, there were some interesting relationships that emerged from the Big Five variables. Those who were higher in agreeableness reported that multitasking was less communal overall \( r = -.10, p = .027 \). Those who were higher in conscientiousness reported that the behavior as more rude \( r = .13, p = .006 \) and less agentic \( r = -.12, p = .009 \); they also had a negative relationship with polychronicity \( r = -.17, p < .001 \). Finally, those high in openness reported lower levels of rudeness overall \( r = .10, p = .024 \). Similar to Study 1, anger was positively related to neuroticism \( r = .64, p < .001 \) and negatively related to extraversion \( r = -.11, p = .017 \), agreeableness \( r = -.18, p < .001 \), conscientiousness \( r = -.39, p < .001 \), and openness \( r = -.09, p = .041 \). This once again replicates the relationships that were found by Sliter and colleagues (2015).

All means and standard deviations for key study variables, along with the correlations, are presented in Table 4 below.
Table 4
Descriptive Statistics and Correlations Among Study Variables in Study 2

<table>
<thead>
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<th>Variable</th>
<th>M</th>
<th>SD</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
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<th>16</th>
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<td></td>
</tr>
<tr>
<td>2. Participation</td>
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<td>0.99</td>
<td>.32*</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>3. Multitasking</td>
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<td>0.49</td>
<td>.31*</td>
<td>.46*</td>
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<td>4. Sleepiness</td>
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<td>1.09</td>
<td>.01</td>
<td>-.09</td>
<td>-.01</td>
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<td>5. Intent</td>
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<td>-.13*</td>
<td>-.16*</td>
<td>.03</td>
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<td>6. Rude</td>
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<td>-.31*</td>
<td>-.54*</td>
<td>-.47*</td>
<td>-.01</td>
<td>.23*</td>
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<td>.62*</td>
<td>.45*</td>
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<tr>
<td>8. Communalism</td>
<td>2.68</td>
<td>1.10</td>
<td>.26*</td>
<td>.51*</td>
<td>.39*</td>
<td>-.08</td>
<td>-.18*</td>
<td>-.60*</td>
<td>.83*</td>
<td>(.94)</td>
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<tr>
<td>9. Extraversion</td>
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<td>1.14</td>
<td>.00</td>
<td>.18*</td>
<td>.11*</td>
<td>.02</td>
<td>.07</td>
<td>-.22*</td>
<td>.21*</td>
<td>.16*</td>
<td>(.91)</td>
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<tr>
<td>10. Anger</td>
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<td>1.37</td>
<td>-.02</td>
<td>.03</td>
<td>.02</td>
<td>.26*</td>
<td>.14*</td>
<td>-.02</td>
<td>.08</td>
<td>.04</td>
<td>.16*</td>
<td>(.90)</td>
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<td>11. Hostility</td>
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<td>.01</td>
<td>.03</td>
<td>.04</td>
<td>.27*</td>
<td>.07</td>
<td>-.03</td>
<td>.11*</td>
<td>.10*</td>
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<tr>
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<td>-.04</td>
<td>-.01</td>
<td>.03</td>
<td>-.15*</td>
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<td>-.01</td>
<td>.05</td>
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<td>-.27*</td>
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<tr>
<td>13. Agreeableness</td>
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<td>0.86</td>
<td>-.07</td>
<td>-.01</td>
<td>.03</td>
<td>-.16*</td>
<td>.01</td>
<td>.08</td>
<td>-.07</td>
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<td>.27*</td>
<td>(.80)</td>
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<tr>
<td>14. Conscientiousness</td>
<td>3.85</td>
<td>0.81</td>
<td>.01</td>
<td>-.06</td>
<td>-.03</td>
<td>-.27*</td>
<td>-.12</td>
<td>.13*</td>
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<td>.22*</td>
<td>(.73)</td>
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<tr>
<td>15. Neuroticism</td>
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<td>0.92</td>
<td>-.02</td>
<td>.03</td>
<td>.04</td>
<td>.32*</td>
<td>.03</td>
<td>-.05</td>
<td>.09</td>
<td>.03</td>
<td>.06</td>
<td>.64*</td>
<td>.55*</td>
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<td>-.14*</td>
<td>-.47*</td>
<td>(.79)</td>
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<td>16. Openness</td>
<td>3.40</td>
<td>0.54</td>
<td>-.11*</td>
<td>-.02</td>
<td>-.09</td>
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<td>.04</td>
<td>.10*</td>
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<td>-.09*</td>
<td>-.10*</td>
<td>.16*</td>
<td>.32*</td>
<td>.10*</td>
<td>-.04</td>
<td>(.76)</td>
</tr>
</tbody>
</table>

Note. * indicated p < .05.

M and SD are used to represent mean and standard deviation respectively.
Cronbach’s alphas are reported in parentheses on the diagonal for all measures with multiple items.
For group, irrelevant = 0 and relevant = 1.
Hypothesis Tests

Hypotheses 2 (task relevance main effect) and 9 (task relevance by polychronicity interaction) was tested using a moderated multiple regression model in which the dependent variable was evaluations of rudeness and the independent variables were the relevance of the multitasking behavior and polychronicity. In step one, the dichotomous task relevance conditions was added to the model. It was dummy coded so that relevant = 1 and irrelevant = 0. In step two, the continuous polychronicity moderator was added to the model. In step three, the interaction term for relevance condition by polychronicity was entered. Results are presented in Table 5, with results discussed below.

Hypothesis 2

Hypothesis 2 predicted that evaluations of rudeness will be lower in the relevant multitasking condition as compared to the irrelevant multitasking condition. I found evidence for the effect of task-relevant behavior on rudeness (β =-.31, p < .001), in which evaluations of rudeness was lower for the relevant condition (M = 2.38, SD = .95) compared to the irrelevant condition (M = 2.98, SD = .88). Thus, Hypothesis 2 was supported.

Hypothesis 9

Hypothesis 9 examined if there was a significant two-way interaction between task relevance conditions and polychronicity in predicting evaluations of rudeness. Specifically, I predicted that relevant electronic multitasking would be rated as less rude than irrelevant multitasking, but this relationship was only significant for individuals who are high in polychronicity. Results indicated that the polychronicity by task relevance condition significantly predicted perceptions of rudeness beyond main effects, F(1, 471) = -.32, p = .027, ΔR² = .01. As expected, the effect of relevance on rudeness perceptions changes based on an individual’s level
## Table 5

Results of Multiple Regression Analyses with Task Relevance and Polychronicity on Rudeness, Agency, and Communalism

<table>
<thead>
<tr>
<th></th>
<th>Rudeness</th>
<th>Agency</th>
<th>Communalism</th>
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<tbody>
<tr>
<td></td>
<td><em>b</em></td>
<td>SE</td>
<td>beta</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>(Intercept)</td>
<td>2.98*</td>
<td>0.06</td>
<td>-0.31</td>
</tr>
<tr>
<td>Task Relevance</td>
<td>-0.60*</td>
<td>0.08</td>
<td>-0.31</td>
</tr>
<tr>
<td><strong>Model Fit</strong></td>
<td></td>
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<tr>
<td><strong>Fit Change</strong></td>
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<tr>
<td>F(1, 473) = 51.89, R^2 = .099*</td>
<td>F(1, 473) = 63.14, R^2 = .118*</td>
<td>F(1, 473) = 33.72, R^2 = .067*</td>
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<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(Intercept)</td>
<td>3.62*</td>
<td>0.13</td>
<td>0.23</td>
</tr>
<tr>
<td>Task Relevance</td>
<td>-0.61*</td>
<td>0.08</td>
<td>-0.32</td>
</tr>
<tr>
<td>Polychronicity</td>
<td>-0.18*</td>
<td>0.04</td>
<td>-0.22</td>
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<tr>
<td><strong>Fit Change</strong></td>
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</tr>
<tr>
<td>F(1, 472) = 40.21, R^2 = .146*</td>
<td>F(2, 472) = 45.68, R^2 = .162*</td>
<td>F(1, 472) = 13.15, R^2 = .03*</td>
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<tr>
<td><strong>Step 3</strong></td>
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<tr>
<td>(Intercept)</td>
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<td>0.21</td>
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</tr>
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<td>I(Task Relevance * Polychronicity)</td>
<td>-0.16*</td>
<td>0.07</td>
<td>-0.32</td>
</tr>
<tr>
<td><strong>Model Fit</strong></td>
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<tr>
<td><strong>Fit Change</strong></td>
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</tr>
<tr>
<td>F(3, 471) = 28.66, R^2 = .154*</td>
<td>F(3, 471) = 30.39, R^2 = .162*</td>
<td>F(3, 471) = 16.08, R^2 = .093*</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* * indicates p < .05. A significant *b*-weight indicates the beta-weight and semi-partial correlation are also significant. *b* represents unstandardized regression weights; *SE* represents the standard error of the unstandardized regression weights; *beta* indicates the beta-weights or standardized regression weights.

For task switching condition effects, 1 = relevant and 0 = irrelevant.
of polychronicity. The results indicate that the effect of task relevance in reducing rudeness perceptions is weaker among those who have low polychronicity, compared to those who have high polychronicity. For those who are high in polychronicity, there is a steeper slope, where irrelevant multitasking is seen as more rude than relevant multitasking. However, in individuals who are low in polychronicity, the difference between groups is not as pronounced. They view both types of multitasking behavior equally as rude. Thus, Hypothesis 9 was supported. Results are presented in Table 5.

Hypotheses 4a-b (task relevance main effects) and 10a-b (task relevance by polychronicity interactions) were tested using two moderated multiple regression models in which the dependent variables were (a) agency and (b) communalism respectively, and the independent variables were the task relevance condition and polychronicity. In step one, the dichotomous task relevance conditions variable was added to the model. It was dummy coded so that relevant = 1 and irrelevant = 0. In step two, the continuous polychronicity moderator was added to the model. In step three, the interaction term for relevance condition by polychronicity was entered.

**Hypothesis 4a**

Hypothesis 4a predicted that the relevant multitasking condition will be evaluated as more agentic than the irrelevant multitasking condition. I found evidence for the effect of task relevance behavior on evaluations of agency ($\beta = .34, p < .001$), where evaluations of agency was lower for the irrelevant condition ($M = 2.33, SD = 1.00$) compared to the relevant condition ($M = 3.08, SD = 1.05$). Thus, Hypothesis 4a was supported. Results are presented in Table 5 and discussed in more detail below.

**Hypothesis 4b**
Hypothesis 4b predicted that the relevant multitasking condition will be evaluated as more communal than the irrelevant multitasking condition. I found evidence for the effect of task relevance behavior on evaluations of communalism ($\beta = .26, p < .001$), where evaluations of communalism were lower for the irrelevant condition ($M = 2.40, SD = 1.01$) compared to the relevant condition ($M = 2.97, SD = 1.05$). Thus, Hypothesis 4b was supported.

Hypothesis 10a

Hypothesis 10a examined if there was a two-way interaction between task relevance condition and polychronicity in predicting ratings of agency. Specifically, multitasking behavior that is done when the secondary task is relevant to the primary task is rated as more agentic than multitasking on a secondary task that is irrelevant. However, this relationship would only be significant for individuals who are high in polychronicity. Results indicated that the polychronicity by task relevance condition did not significantly predict evaluations of agency, $F(1, 471) = .00, p = .984, \Delta R^2 = .00$. Thus, Hypothesis 10a was not supported.

Hypothesis 10b

Hypothesis 10b examined if there was a two-way interaction between task relevance polychronicity in predicting ratings of communalism. Specifically, multitasking behavior that is done when the secondary task is relevant to the primary task is rated as more communal than multitasking on a secondary task that is irrelevant. However, this relationship would only be significant for individuals who are high in polychtonicity. Results indicate that the polychronicty by task relevance condition did not significantly predict evaluations of communalism, $F(1, 471) = .11, p = .453, \Delta R^2 = .00$. Thus, Hypothesis 10b was not supported.

The effects discussed in Hypotheses 2, 4a, and 4b are displayed in Figure 6, and Hypothesis 9, 10a, and 10b are displayed in Figure 7.
Hypothesis 13

Hypothesis 13 examined if there was a two-way interaction between task relevance and trait anger in predicting ratings of rudeness. Specifically, multitasking on a secondary task that is relevant to the primary task would be rated as less rude than multitasking on a secondary task that is irrelevant. However, this relationship would only be significant for individuals who are low in trait anger. This hypothesis (task relevance by trait anger interaction) was tested using a moderated multiple regression model in which the dependent variable was evaluations of rudeness and the independent variables were task relevance condition and trait anger. In step one, the dichotomous task relevance conditions was added to the model. It was dummy coded so that relevant = 1 and irrelevant = 0. In step two, the continuous trait anger moderator was added to the model. In step three, the interaction term for relevance condition by trait anger was entered. Results are presented in Table 6. The trait anger by task relevance condition did not significantly predict judgments of rudeness, $F(1, 469) = .00, \ p = .984, \ \Delta R^2 = .00$. Thus, Hypothesis 13 was not supported.

Hypothesis 16

Hypotheses 16 a-b (task relevance by trait anger interactions) was tested using two moderated multiple regression models in which the dependent variables were (a) agency and (b) communalism respectively, and the independent variables were the task relevance condition and trait anger. In step one, the dichotomous task relevance conditions was added to the model. They were dummy coded so that relevant = 1 and irrelevant = 0. In step two, the continuous trait anger moderator was added to the model. In step three, the interaction term for relevance condition by trait anger was entered. Results are presented in Table 6 and discussed in more detail below.
Figure 6. Difference in Evaluations of Rudeness, Agency, and Communalism Between Irrelevant Multitasking and Relevant Multitasking
Figure 7. The Interaction Between the Task Relevance (Irrelevant vs. Relevant) and Polychronicity on the Evaluations of Rudeness, Agency, and Communalism
Table 6

Results of Multiple Regression Analyses with Task Relevance and Trait Anger on Rudeness, Agency, and Communalism

<table>
<thead>
<tr>
<th></th>
<th>Rudeness</th>
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<th>Agency</th>
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<th>Communalism</th>
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<td></td>
<td>b</td>
<td>SE</td>
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<td>b</td>
<td>SE</td>
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<td>SE</td>
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<tr>
<td>(Intercept)</td>
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<td>-0.31</td>
<td>2.33*</td>
<td>0.07</td>
<td>0.35</td>
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<td>0.07</td>
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<td>0.57*</td>
<td>0.10</td>
<td>0.26</td>
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<td>Model Fit</td>
<td>F(1, 471) = 50.92, R² = .098*</td>
<td>F(1, 471) = 63.60, R² = .119*</td>
<td>F(1, 471) = 34.25, R² = .068*</td>
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<tr>
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<td>0.10</td>
<td>-0.31</td>
<td>2.15*</td>
<td>0.11</td>
<td>0.35</td>
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<td>0.26</td>
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<tr>
<td>Task Relevance</td>
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<td>-0.31</td>
<td>0.75*</td>
<td>0.09</td>
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<tr>
<td>Trait Anger</td>
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<td>-0.03</td>
<td>0.06</td>
<td>0.03</td>
<td>0.08</td>
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<td>0.04</td>
<td>0.04</td>
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<tr>
<td>Model Fit</td>
<td>F(2, 470) = 25.53, R² = .098*</td>
<td>F(2, 470) = 33.78, R² = .126*</td>
<td>F(2, 470) = 17.55, R² = .069*</td>
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<tr>
<td>Fit Change</td>
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<td>F(1, 470) = 3.62, ΔR² = .01</td>
<td>F(1, 470) = 0.86, ΔR² = .00</td>
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<tr>
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<td>0.20</td>
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<tr>
<td>Trait Anger</td>
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<td>0.04</td>
<td>-0.03</td>
<td>0.08</td>
<td>0.05</td>
<td>0.10</td>
<td>0.01</td>
<td>0.05</td>
<td>0.01</td>
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<td></td>
</tr>
<tr>
<td>I(Task Relevance * Trait Anger)</td>
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<td>0.06</td>
<td>0.00</td>
<td>-0.03</td>
<td>0.07</td>
<td>-0.05</td>
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<tr>
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<td>F(3, 469) = 22.56, R² = .126*</td>
<td>F(3, 469) = 11.83, R² = .070*</td>
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</tr>
<tr>
<td>Fit Change</td>
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<td>F(1, 469) = 0.42, ΔR² = .00</td>
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</table>

Note. * indicates p < .05. A significant b-weight indicates the beta-weight and semi-partial correlation are also significant. b represents unstandardized regression weights; SE represents the standard error of the unstandardized regression weights; beta indicates the beta-weights or standardized regression weights; sr² represents the semi-partial correlation squared; r represents the zero-order correlation. For task switching condition effects, 1 = relevant and 0 = irrelevant.
Hypothesis 16a

Hypothesis 16a examined if there was a two-way interaction between task relevance and trait anger in predicting evaluations of agency. Specifically, multitasking on a secondary task that is relevant to the primary task would be rated as less agentic than multitasking on a secondary task that is irrelevant. However, this relationship would only be significant for individuals who are low in trait anger. Results indicated that the trait anger by task relevance did not significantly predict evaluations of agency, $F(1, 469) = .05, p = .629, \Delta R^2 = .00$. Thus, Hypothesis 16a was not supported.

Hypothesis 16b

Hypothesis 16b examined if there was a two-way interaction between task relevance and trait anger in predicting ratings of communalism. Specifically, multitasking on a secondary task that is relevant to the primary task would be rated as more communal than multitasking on a secondary task that is irrelevant. However, this relationship will only be significant for individuals who are low in trait anger. Results indicated that the trait anger by task relevance did not significantly predict evaluations of communalism, $F(1, 469) = .07, p = .518, \Delta R^2 = .00$. Thus, Hypothesis 16b was not supported. The effects discussed in Hypotheses 13, 16a, and 16b are depicted in Figure 8 below.

Discussion

As expected, the results indicate that there are group differences in judgments of rudeness, agency, and communalism between conditions where multitasking is undertaken for
Figure 8. The Interaction Between the Task Relevance (Irrelevant vs. Relevant) and Trait Anger on the Evaluations of Rudeness, Agency, and Communalism
relevant secondary task, compared to an irrelevant secondary task. Those multitasking on a relevant task are seen as less rude, more agentic, and more communal compare to those multitasking on an irrelevant task. This suggests that people are focusing on the secondary activity when they evaluate a coworker’s multitasking behavior. This is in line with expectations based on comments by managers who claim to allow multitasking as long as it does not affect performance and productivity (Reinsch et al., 2008). A situation where a colleague is disseminating additional information is seen as productive, even though the person may not be allocating undivided attention to the task at hand.

Replicating Study 1, I found that the relationship with polychronicity was as expected for evaluations of rudeness, agency, and communality. People high in polychronicity were more likely to judge multitasking behavior as being less rude, more agentic and more communal. The belief that multitasking is the most efficient way to work may be influencing their evaluations of others’ behaviors. However, contrary to Study 1, there were not significant effects with trait anger. While the relationships were in the same direction (opposite from what was expected), they were not statistically significant, suggesting this effect may be too weak or unreliable to interpret.

Overall, polychronicity and trait anger tended to not alter the effects of task relevance on multitasking behavior evaluations, with one exception. The effect of task relevance on evaluations of rudeness differed by levels of polychronicity. Specifically, the difference in evaluations of rudeness between the task relevance groups was stronger among those who are high in polychronicity, compared to those who were low in polychronicity. Thus, it appears that those high in polychronicity are more influenced by the task relevance cues in interpreting whether a multitasking behavior is rude or not. Alternatively, people who are low in
polychronicity see electronic multitasking as rude, regardless of the secondary activity being relevant or not.
Study 3 was conducted in an exploratory fashion to examine differences between the two factors of engagement (concurrent vs. sequential) and relevance (irrelevant vs. relevant) on coworker judgments using a within-person design. That is, I explored how the same person rated each of the same vignettes from Study 1 and Study 2 (see Appendix B) with respect to rudeness, agency, and communalism judgments. I counterbalanced the presentation of each vignette to each participant to account for ordering effects, which is a common problem with within-subjects designs (Charness, Gneezy, & Kuhn, 2012). I expected there to be a significant difference between the engagement conditions where concurrent multitasking was rated as less rude, more agentic, and more communal than sequential multitasking. Similar to Study 2, I expected there to be differences between the relevance conditions, with relevant multitasking evaluated as less rude, more agentic, and more communal than irrelevant multitasking.

This design was chosen as it does not require a large sample of data and reduces the influence of individual differences affecting results (Charness et al., 2012). Furthermore, it’s more naturalistic to see people engaging in multiple behaviors, and so evaluating coworkers engaging in different behaviors in the same meeting should be an expected situation. This increase in power that can be achieved from a within-subjects design (Charness et al., 2012) was an important factor to consider with the relatively low power that the field of psychology generally has (OSF). Thus, it is recommended to conduct studies that have more power so that if
results are non-significant, even with an increased power, it strengthens the confidence in the non-significant results (Decoster, Sparks, Sparks, Sparks, & Sparks, 2015). With the replication crisis that emerged, there was a push for more replication attempts on effects that were found. Thus, Study 3 served as a replication attempt of the contextual factor effects that were found in Study 1 and Study 2.

Method

Participants and Procedure

The questionnaire for Study 3 was hosted on Qualtrics, an online survey software. This allowed us to randomly assign participants to each of the vignettes in an equally counterbalanced order. Participants were collected from the undergraduate population at a large midwestern university. They were introductory psychology students who completed the survey as part of their research requirement and senior psychology students who completed the survey as extra credit. They saw a recruitment statement which briefly informed them about the topic of the study and then could choose to participate if they met the eligibility criteria (18 years and older). If they gave us consent, they were allowed to move on to the survey and were presented with the vignettes. Upon completion of their ratings for each coworker, they filled out demographic information and their student identification number, which allowed me to ensure they did not participate multiple times. Once they were done, they were debriefed, thanked, and provided credit for their participation.

As this study was conducted in an exploratory fashion, I did not have a prior effect size to use for within-subjects measures. Thus, I chose to use sequential analysis (Lakens, 2014) to determine a sample size. I chose to collect up to 140 students and peek at my data once midway
and once at the end. Thus, with two points of analysis, I dropped my p-value to 0.025 to account for an inflated Type 1 error rate. Once I hit 84 students, I paused data collection and cleaned my data to find I had 71 valid participants. Thus, I decided to analyze my data at that point. From the 84 cases, I dropped four cases for having duplicate student identification numbers and nine cases for not having a student identification number. Thus, I was left with a final sample of 71 students. The sample was evenly split between males and females (50% male), and about half of the sample identified as White/Caucasian (47%), with Black or African American (24%) and Hispanic or Latino (20%) the next largest groups. This sample was younger ($M = 20.30$, $SD = 2.07$) than the ones collected on MTurk, as per the norm at this university, and a little more than half the sample worked at least part time (full-time = 5%, part time = 54%). The same measures used in Study 1 and Study 2 were also used in Study 3 to assess agency, communalism, rudeness, and intent.

Results

The results were analyzed in SPSS version 22. The data followed the assumptions of independent observations, which were ensured by checking the unique student identification numbers. I could not test sphericity with Mauchly’s test as each factor only had two levels, and at least three levels are required to test for sphericity.

Preliminary Analyses

Manipulation checks were included to assess whether participants actually perceived the behavior as multitasking or not. I also assessed if they perceived the coworkers to be participation in the meeting or not. As expected, there was a difference in concurrent versus
sequential multitasking, \( F(1,67) = 152.04, p < .001 \), where the coworkers multitasking in a concurrent manner \( (M = 3.01, SD = 0.10) \) were judged as participating more than those who were multitasking in a sequential manner \( (M = 1.54, SD = .07) \). A similar distinction was also seen between conditions where the relevance of the multitasking action differed, \( F(1,67) = 32.96, p < .001 \). It was judged that those multitasking for relevant purposes \( (M = 2.65, SD = .11) \) were seen as participating more than those who were multitasking for irrelevant purposes \( (M = 1.90, SD = .08) \).

Participants also differed in their judgments of whether the behavior was termed multitasking or not based on concurrent or sequential multitasking, \( F(1,57) = 77.13, p < .001 \), and task relevance, \( F(1,57) = 11.33, p = .001 \). For instance, concurrent multitasking \( (M = 1.73, SD = .04) \) was judged as multitasking more than sequential multitasking \( (M = 1.19, SD = .04) \), and relevant multitasking \( (M = 1.56, SD = .04) \) was judged as multitasking more than irrelevant multitasking \( (M = 1.36, SD = .04) \). All means and standard deviations for key study variables, along with the correlations and reliabilities, are presented in Table 7 below.

**Hypothesis Tests**

I conducted repeated-measures factorial ANOVAs to examine if there was a difference in the interested outcomes (i.e., rudeness, agency, and communalism) between the two factors, engagement and relevance. Thus, I had a 2 (engagement: concurrent vs. sequential) x 2 (relevance: irrelevant vs. relevant) design for each outcome. There were differences as expected for each outcome.

The coworkers who were multitasking concurrently \( (M = 2.09, SD = .08) \) were rated as less rude than those who were multitasking sequentially \( (M = 2.80, SD = .08) \), \( F(1,69) = 68.53, p < .001 \).
Table 7.
Correlations and Descriptive Statistics of Variables in Study 3

<table>
<thead>
<tr>
<th>Variable</th>
<th>$M$</th>
<th>$SD$</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<th>14</th>
<th>15</th>
<th>16</th>
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</thead>
<tbody>
<tr>
<td>1. Rude A</td>
<td>2.46</td>
<td>0.92</td>
<td></td>
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<tr>
<td>2. Intent A</td>
<td>1.25</td>
<td>0.53</td>
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<tr>
<td>3. Agency A</td>
<td>2.67</td>
<td>0.84</td>
<td>-0.55*</td>
<td>-0.51*</td>
<td></td>
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<tr>
<td>4. Communalism A</td>
<td>2.79</td>
<td>0.85</td>
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<td>-0.60*</td>
<td>0.64*</td>
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<tr>
<td>5. Rude B</td>
<td>1.70</td>
<td>0.91</td>
<td>0.13</td>
<td>0.07</td>
<td>-0.09</td>
<td>-0.11</td>
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<tr>
<td>6. Intent B</td>
<td>1.13</td>
<td>0.38</td>
<td>-0.02</td>
<td>0.12</td>
<td>0.12</td>
<td>0.12</td>
<td>0.50*</td>
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<tr>
<td>7. Agency B</td>
<td>3.68</td>
<td>1.00</td>
<td>0.03</td>
<td>0.14</td>
<td>0.02</td>
<td>-0.64* -0.32*</td>
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<tr>
<td>8. Communalism B</td>
<td>3.47</td>
<td>0.97</td>
<td>0.03</td>
<td>0.07</td>
<td>0.14</td>
<td>-0.62* -0.38* 0.81*</td>
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<tr>
<td>9. Rude C</td>
<td>3.13</td>
<td>0.94</td>
<td>0.54*</td>
<td>0.22</td>
<td>-0.25*</td>
<td>-0.16</td>
<td>0.00</td>
<td>-0.05</td>
<td>0.01</td>
<td>-0.03</td>
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<tr>
<td>10. Intent C</td>
<td>1.58</td>
<td>0.75</td>
<td>0.18</td>
<td>-0.16</td>
<td>-0.15</td>
<td>-0.13</td>
<td>0.15</td>
<td>0.08</td>
<td>0.06</td>
<td>.30*</td>
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<tr>
<td>11. Agency C</td>
<td>1.77</td>
<td>0.72</td>
<td>-0.33*</td>
<td>-0.03</td>
<td>0.21</td>
<td>0.26*</td>
<td>0.11</td>
<td>0.02</td>
<td>-0.03</td>
<td>-0.41* -0.15</td>
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<tr>
<td>12. Communalism A</td>
<td>2.01</td>
<td>0.90</td>
<td>-0.29*</td>
<td>-0.20</td>
<td>0.06</td>
<td>.39*</td>
<td>0.03</td>
<td>0.02</td>
<td>-0.04</td>
<td>0.07</td>
<td>-0.49* -0.39* 0.55*</td>
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<tr>
<td>13. Rude D</td>
<td>2.48</td>
<td>0.95</td>
<td>0.12</td>
<td>-0.07</td>
<td>0.12</td>
<td>-0.02</td>
<td>.35*</td>
<td>-0.05</td>
<td>-0.15</td>
<td>-0.13</td>
<td>0.07</td>
<td>0.03</td>
<td>-0.03</td>
<td>-0.15</td>
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<tr>
<td>14. Intent D</td>
<td>1.29</td>
<td>0.57</td>
<td>-0.04</td>
<td>0.13</td>
<td>0.10</td>
<td>0.08</td>
<td>-0.09</td>
<td>0.01</td>
<td>0.18</td>
<td>0.12</td>
<td>-0.10</td>
<td>.45*</td>
<td>.32*</td>
<td>0.05</td>
<td>.34*</td>
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<tr>
<td>15. Agency D</td>
<td>2.63</td>
<td>0.96</td>
<td>0.14</td>
<td>-0.13</td>
<td>-0.07</td>
<td>-0.10</td>
<td>0.07</td>
<td>.29*</td>
<td>0.22</td>
<td>-0.06</td>
<td>0.00</td>
<td>.43*</td>
<td>.33*</td>
<td>-0.43* -0.02</td>
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<tr>
<td>16. Communalism D</td>
<td>2.61</td>
<td>0.90</td>
<td>0.00</td>
<td>0.21</td>
<td>-0.17</td>
<td>0.10</td>
<td>-0.08</td>
<td>0.14</td>
<td>0.17</td>
<td>0.20</td>
<td>-0.02</td>
<td>-0.02</td>
<td>.39*</td>
<td>.43*</td>
<td>-0.57* -0.11</td>
<td>.80*</td>
<td></td>
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</tr>
</tbody>
</table>

Note. * indicated p < .05.
M and SD are used to represent mean and standard deviation respectively.
As expected, this pattern was reversed for ratings of agency and communalism. Those coworkers who were multitasking concurrently ($M = 3.17$, $SD = .08$) were rated as more agentic than those who were multitasking sequentially ($M = 2.20$, $SD = .08$), $F(1,70) = 81.51$, $p < .001$. A similar pattern was also seen in ratings of communalism where those who were multitasking concurrently ($M = 3.14$, $SD = .08$) were rated as more communal than those who were multitasking sequentially ($M = 2.31$, $SD = .09$), $F(1,69) = 62.27$, $p < .001$.

Similarly to the comparisons between concurrent multitasking and sequential multitasking, there was a similar pattern observed in the group differences of relevance. The coworkers who were multitasking for relevant purposes ($M = 3.15$, $SD = .09$) were rated as more agentic than those multitasking for irrelevant purposes ($M = 2.22$, $SD = .07$), $F(1,70) = 74.62$, $p < .001$. Similarly, the same pattern was observed for ratings of communalism. Coworkers who were multitasking for relevant purposes ($M = 3.04$, $SD = .09$) were rated as more communal than those multitasking for irrelevant purposes ($M = 2.41$, $SD = .09$), $F(1,69) = 37.33$, $p < .001$. Finally, as expected, this pattern was reversed for ratings of rudeness. Coworkers who were multitasking for relevant purposes ($M = 2.08$, $SD = .09$) were rated as less rude than those multitasking for irrelevant purposes ($M = 2.81$, $SD = .10$), $F(1,69) = 35.64$, $p < .001$. All results are displayed in Table 8 and graphically in Figure 9.

Discussion

The purpose of this study was to replicate the findings from Study 1 and Study 2. However, I wanted to further explore if these evaluations change depending on viewing one situation versus those who are exposed to multiple situations. Given the prior hypotheses, I expected that the
Table 8.

Results of Repeated Measures ANOVAs with Engagement and Relevance on Rudeness, Agency, and Communalism

<table>
<thead>
<tr>
<th></th>
<th>Rudeness</th>
<th></th>
<th></th>
<th>Agency</th>
<th></th>
<th></th>
<th>Communalism</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>F</td>
<td>df</td>
<td>A</td>
<td>F</td>
<td>df</td>
<td>A</td>
<td>F</td>
</tr>
<tr>
<td>Task Engagement</td>
<td>.502</td>
<td>68.53</td>
<td>(1,69)</td>
<td>.465</td>
<td>81.51</td>
<td>(1,70)</td>
<td>.526</td>
<td>62.27</td>
</tr>
<tr>
<td>Task Relevance</td>
<td>.659</td>
<td>35.64</td>
<td></td>
<td>.484</td>
<td>74.62</td>
<td></td>
<td>.649</td>
<td>37.27</td>
</tr>
<tr>
<td>Task Engagement * Relevance</td>
<td>.994</td>
<td>0.39</td>
<td></td>
<td>.982</td>
<td>1.26</td>
<td></td>
<td>.999</td>
<td>0.07</td>
</tr>
</tbody>
</table>

(1,69)
Figure 9. Difference in Evaluations of Rudeness, Agency, and Communalism Across All Conditions
concurrent multitasking situations would be judged as less rude, more agentic, and more communal than sequential multitasking. Further, I also expected that multitasking that was irrelevant to the primary task would be evaluated as less rude, more agentic, and more communal than multitasking that was relevant to the primary task. These results show that participants were viewing the vignettes as intended and they were viewing the differences between factors as intended. They categorized concurrent multitasking as less rude, more agentic, and more communal than sequential multitasking. This varies from what was found in Study 1, where there were no differences found between concurrent multitasking and sequential multitasking conditions. They also noted the difference in the content of the coworkers’ multitasking where the coworkers who were multitasking for relevant purposes were evaluated as less rude, more agentic, and more communal than those multitasking for irrelevant purposes. This replicated the results found in Study 2, where there were significant differences and the relationships were the same direction. This assures us that the conditions were being differentiated in a manner that was intended.
CHAPTER 8
GENERAL DISCUSSION

The current studies built upon and integrated the multitasking literature and interpersonal evaluation literature in the organizational context. Prior to the conducted research, the literature largely ignored employees’ judgments of different multitasking types in the organizational context and in which instances these behaviors would be acceptable. Given that employees across the U.S. attend almost 11 million meetings daily (Allen, Rogelberg, & Scott, 2008), there are ample opportunities for employees to evaluate their coworkers’ behaviors. Coupled with the modern employee’s dependence on technology, there is also an increased judgment of technology use and multitasking based on technology in the workplace. These evaluations have widespread influences, affecting interpersonal communication (Bohmer et al., 2013; Dietel et al, 2011); group productivity (Newman & Smith, 2006); and employee health, burnout, and satisfaction (Bowling & Beehr, 2006). Thus, electronic multitasking in an organizational context is fast becoming an extremely important idea in the multitasking, communications, and temporal values research areas.

The first goal of these studies was to explore situational factors such as employee task engagement and task relevance. I explored if the level of engagement in the primary task influenced how the multitasker is judged. Thus, complete disengagement from the primary task should be viewed differently than if the primary task and secondary task were being undertaken almost simultaneously. These studies indicate that employees do not appear to differentiate
between the task-switching behavior – concurrent (rapid) or sequential (slow) – when they form judgments of rudeness, agency, or communalism. However, this finding was not confirmed in Study 3, where employees did differentiate between the task-switching behaviors.

Confirming expectations, there was a difference in judgments between multitasking that was undertaken for relevant purposes and irrelevant purposes. Individuals tend to rely on the relevance of the secondary task to the primary task to determine evaluations of such behaviors. Relevant multitasking was evaluated as less rude, more agentic, and more communal than irrelevant multitasking. These findings were replicated with Study 3, leading to more confidence in these relationship differences.

The second goal of the study was to explore the relationship between these perceptions and various personality variables because an individual’s personal characteristics can influence the way they form judgments about others or situations (Kelly, 1955). Thus, different employees viewing the same behaviors can form very different judgments based on their own personalities. While evidence exists regarding employee personality factors guiding individual behaviors (Bolton, Becker, & Barber, 2010; Jensen & Patel, 2011; Ones & Viswesvaran, 2001; Spector, 2011), far less exists about those same personality variables driving evaluations about others’ behaviors.

For the current studies, I explored polychronicity and trait anger. In regard to polychronicity, the results were as hypothesized across both studies. Those who were high in polychronicity regarded multitasking as less rude, more agentic, and more communal than those who were lower in polychronicity, regardless of engagement or relevance. Trait anger was slightly more complicated, with the results being in the opposite direction than hypothesized for both studies, but only significant in Study 1. Thus, I saw that those who have higher trait anger
view multitasking as less rude, more agentic, and more communal than those who are lower in
trait anger. However, Study 2 did not replicate this finding, leaving me unable to draw any
conclusions from these results, as it is possible that they are a Type 1 errors. However, this is an
area that should be explored further.

The final goal of this study was to determine how the situational factors and personality
variables interacted. When looking at situations where engagement and personality variables are
looked at in conjunction, there did not seem to be any differences in the relationships based on
the level of either polychronicity or trait anger. Potentially, this lack of effect could be driven by
no difference reported between the concurrent situation and the sequential situation. A similar
pattern was observed with relevance and the personality variables. The only outcome that was
affected by this interaction was rudeness. As expected, task relevance reduced perceptions of
rudeness in those who were higher in polychronicity compared to those who were lower in
polychronicity.

Theoretical Implications

Stephens and colleagues (2012) described multitasking as being on a continuum, with
concurrent multitasking on one end and sequential multitasking on the other. If the difference
lies in the time spent on each task and thus the time of disengagement with the primary task, then
the type of multitasking behavior should have influenced ratings of rudeness, agency, and
communalism. However, the data did not provide clear evidence for such distinctions. Contrary
to what was expected, in Study 1, no differences were found in terms of rudeness, agency, or
communalism regarding concurrent versus sequential multitasking. However, in Study 3, when
participants were given the opportunity to compare all four conditions, this theory held true and there was a difference between sequential multitasking and concurrent multitasking. A possible reason for this could be that the participants didn’t really differentiate between the two conditions. However, in Study 3, seeing all the conditions may have allowed them to distinguish the differences and thus come up with different evaluations.

Study 2 supported Bell et al.’s (2005) theory of electronic multitasking where they posit that the relevance of the secondary task can diminish the negative evaluations that stem from witnessing a coworker multitask. As expected, employees using their laptops for clearly work-related tasks were evaluated as less rude, more agentic, and more communal, corroborating Kleinman’s (2007) findings. These findings were further replicated in Study 3, where there was a clear distinction in how participants rated relevant multitasking and irrelevant multitasking. This could imply that the content of the multitasking behavior consistently drives the evaluations of such behaviors. Participants are consistently placing importance on the content of the secondary task to drive their judgments.

Simply observing other behaviors or situations can lead to different evaluations being formed, based on an individual’s own characteristics (Kelly, 1955). Thus, it was expected that polychronicity and trait anger would have strong relationships with the outcomes of rudeness, agency, and communalism. The data supported theory regarding polychronicity. As expected, those high in polychronicity viewed multitasking behavior to be less rude, more agentic, and more communal than those low in polychronicity. This relationship was replicated across two studies, lending evidence to the theory that those high in polychronicity have the personal preference of working on multiple tasks and the belief that others should also follow the same methods (Bluedorn, 2002).
The results of trait anger were especially surprising given my expectations. Evidence from Study 1 indicates that those with higher levels of trait anger do not view multitasking more negatively than those lower in trait anger. Given past research that indicates those high in trait anger are more likely to be attuned to violations of fairness perceptions and injustices, the Study 1 results in the opposite direction were counterintuitive. It was not expected that those higher in trait anger would regard multitasking behavior as less rude, more agentic, and more communal. However, these results were not replicated in Study 2 and thus the first set of results must be interpreted with caution. Further explorations are needed before speculating on Study 1 results.

Practical Implications

Given that employees are becoming more accustomed to using technology in the workplace (Bajko, 2012), and multitasking has become part of the social norm (Bajko, 2012; Bajko & Fels, 2013; Tang, 2005), electronic multitasking should be an area of interest to management. Managers may be interested in understanding how to reduce negative social judgments of electronic multitasking among work teams because of their potential negative effects on health and satisfaction among employees (Bowling & Beehr, 2006). Stephens et al. (2012) called for additional research into distinctions among multitasking behaviors (i.e., rapidity of task-switching behaviors and other contextual issues), which these studies addressed. There was no evidence found for a distinction between the types of multitasking behaviors in terms of task-switching speed (concurrent vs. sequential) in the first study. This is somewhat surprising given expectations that concurrent multitasking might be perceived as being more attentive to the primary task than sequential. However, the expected differences did show up in the third study,
leading to mixed results overall. As this research aims to guide organizational norms, the findings indicate that the focus of these norms should be on the relevance of the secondary task more so than the level of engagement of the employee. Given that multitasking in meetings is rather common (Bajko, 2012), this will aid in avoiding some negative judgments that could be formed.

These studies also examine how these social judgments are affected by personality factors, which is an important aspect of stress at work. Bowling and Jex (2013) argue that certain personality traits influence how people evaluate situations that may arise in the work context. If managers are aware of the relationship between social judgments and personality factors, they can implement methods to help reduce employee stress. For instance, I found that individuals who are higher in polychronicity are less likely to view multitasking behavior as being rude and more likely to judge the behavior as agentic and communal. This pattern held across conditions, implying that the type of multitasking or the relevance was not as important as the preference for multitasking from the evaluator. Thus, if management is aware that employees would be in situations where they are likely to be multitasking in the presence of their coworkers, this is an important aspect to give attention to.

Given that occupational stress has been known to cost companies in the U.S. $300 billion annually (Rosch, 2001), research into factors influencing employee stress is a priority for employers. Thus, these studies aid in identifying individuals who are more likely to be affected by witnessing these multitasking behaviors – those low in polychronicity. Such information could inform managers who wish to identify individuals who possess personality traits that could work better in multitasking environments. In particular, managers may be interested in creating work teams that are less likely to judge electronic multitasking behaviors negatively, which
could improve team satisfaction and well-being. These insights could lead to more productive meetings and better relationships among coworkers in technology-rich work settings.

Limitations and Future Directions

The goal of the current set of studies was to explore which contextual factors and individual difference factors influenced evaluations of rudeness, agency, and communalism. While the findings support the difference in judgments based on relevance across two studies, there was mixed support for the distinction between the different types of multitasking behavior in terms of task switching patterns (concurrent vs. sequential). One way to interpret these findings is that engagement is not an important factor when employees evaluate their coworkers’ multitasking behavior. Alternatively, these results could also be caused by a weak manipulation of task switching behaviors. The conditions were manipulated by a single word that was bolded (i.e., instead of vs. while). However, as participants in Study 1 and Study 2 did not have any other conditions to compare against, they may not have noticed that I was drawing their attention to the engagement aspect. When participants were allowed to compare all four behaviors by being presented all the conditions, the expected differences emerged. Thus, when viewing only a single condition, participants may not have been as attentive to this distinction. Alternatively, when comparing all four conditions as in Study 3, it could be possible that participants were providing responses that they thought would be viewed as “correct” and simply displaying demand characteristics based on what they believed the experimenter wanted to see. Future studies should evaluate this by asking participants who completed the survey if their responses were honest or if they simply provided answers they thought were required.
It also must be noted that the technology use norm was held constant in these studies. I explicitly told participants that everyone in the meeting was using electronic devices to take notes. Thus, differing norms would need to be examined to explore how norm violations influence the level of these relationships. As norms are based on the group one is in (Bernhard, Fehr, & Fischbacher, 2006), everyone in the group should be working towards bettering the group goals. Anyone violating these social norms might be seen as working against the group goals. Witnessing a coworker using technology to multitask might have different effects if the employees are violating norms to do so. For instance, this could be achieved by not mentioning that the other employees were also taking notes with their laptop. In that situation, participants should be asked about the perception of laptop norms in a meeting. To ensure that there is no confusion, it could also be explicitly mentioned that the organization does not allow laptop use during office hours or that the meeting leader especially does not allow laptops during meetings.

The prior knowledge that observers bring in should be assessed in future studies. The correspondence inference theory (Jones & Davis, 1965) focuses on how specific qualities are attributed to other individuals. It posits that, along with behavioral cues, prior knowledge is also used in these attributions. Thus, in these studies, it would be interesting to assess how prior knowledge about the multitasker affects the observer’s judgments. For instance, would knowledge about the multitasker being extremely competent mitigate any negative evaluations? Differential social perceptions occur based on the information observers have about the object of their judgment (Duncan, 1976). This can be seen in stereotyping literature (Sagar & Schofield, 1980) and can be applicable to the situations described in the vignettes in these studies. However, if the observer is primed to think that their coworker is competent, and this knowledge about them is also accessible (Higgins, Rholes, & Jones, 1977), they are more likely to be
influenced by the primed traits. This has even been seen in research with parents and children where the parents’ affect and behaviors tend to follow from the interpretations made about their children’s behaviors (Nakaya, 2016). Thus, this is an area that must be explored in future studies so we can fully understand all the intricacies of these evaluations.

While an online sample was a good starting point, these studies should be replicated in an organizational context. While MTurk samples are comparable to in-lab samples (Henrich et al., 2010), they also tend to be more representative than the traditional undergraduate student pools (Buhrmester, Kwang, & Gosling, 2011). However, MTurk workers tend to be slightly older than a college population or a general internet population with an average age of approximately 30 (Buhrmester et al., 2011), which is what I found in my samples. They also tend to be overeducated, underemployed, less religious, and more liberal than the general population (Henrich et al., 2010). Some have been concerned that MTurk predominantly draws on individuals who are unemployed or from a certain industry. However, Huff and Tingley (2015) addressed this concern by comparing an MTurk population to those from a Cooperative Congressional Election Survey (CCES) and found no differences in level of industry or profession.

Another factor to consider in an online setting would be the one of inattention to detail, compared to a laboratory setting. While subject inattentiveness is an issue that cannot be prevented, I could screen out participants by using items to detect insufficient effort responding (IER; Huang et al., 2015). IER could be the reason why manipulations do not work or could bring in variance that could be mistaken as a real effect (Cheung, Burns, Sinclair, & Sliter, 2017). MTurk workers show more attentiveness compared to traditional subject pools (Hauser & Schwarz, 2016), but IER is still a problem that should be attended to. While there does not seem
to be theoretical reasons as to how these factors can influence the relationships studied here, the difference in population must still be considered with the results.

Finally, there is a level of control that is given up in an online setting. In a laboratory setting, experimenters can generally control the work that participants are doing. However, in an online setting, they may be multitasking themselves while simultaneously completing hits online. Alternatively, this can be thought of as the inclusion of context-dependent moderators (Landers & Behrend, 2015). For instance, workers online may be taking the survey simply as a means of passing time in a voluntary manner, students may take the survey if they voluntarily sign up for it, or workers in an organization may be instructed to take the survey by their supervisors. These could all lead to different responses to the survey items. However, since I was interested in individuals’ perceptions about situations, an online sample seems adequate. Regardless of the industry or level of work, the study simply asked participants what they thought about the behaviors they read about. It focuses on self-reported thoughts and opinions rather than behavioral observations (Landers & Behrend, 2015), making an online convenience sample adequate for the purposes of this study.

Conclusion

These three studies provide an introductory glimpse at how evaluative judgments of electronic multitasking are influenced by contextual factors and individual differences. Task relevance, not rapidity of task-switching behavior, influenced judgments of rudeness, agency, and communalism in the first two studies. There were no differences in evaluations of rudeness, agency, or communalism in regards to concurrent multitasking or sequential multitasking in
Study 1, but differences did emerge in Study 3. However, relevant multitasking was judged as being less rude, more agentic, and more communal compared to irrelevant multitasking across two studies. This leads to further questions regarding the content of the secondary task, as this seems to be an important distinction for observers. In regards to individual differences, polychronicity had anticipated relationships with rudeness, agency, and communalism in all conditions, whereas trait anger did not. Those high in polychronicity rated multitasking behaviors as less rude, more agentic, and more communal overall. However, the relationship with trait anger was not supported in the expected direction. While these studies provide the first set of data regarding evaluations of electronic multitasking, further exploration is needed to assess the damage that these negative perceptions can have on workplace relationships and the variables that predict them.
REFERENCES


Reactions to Work Behaviors During Meetings

You are invited to participate in a study that assesses perceptions about technology use and multitasking in an organizational context.

Eligibility: Only individuals older than 18 years who are comfortable reading and understanding English are eligible for this study.

Procedures: This study takes approximately 5-10 minutes to complete. You will read about a scenario you may come across in an organizational setting. Then, you will provide your perceptions of those interactions and answer demographic questions.

Risks and Benefits: There are no reasonably foreseeable risks associated with this study.

Compensation: You will receive $0.20 for your time. You will be compensated the full amount via Mechanical Turk, even if there are parts of the study that you do not wish to participate in.

Right to Refuse or Withdraw: You may refuse to participate by choosing “No, Exit Survey” below. Furthermore, you retain the right to withdraw from the study at any time without penalty.

Questions: If you have any questions or concerns about your rights as a research participant, you may contact the Northern Illinois University Office of Research Compliance (815-752-8588). If you have questions about this research study, you can contact the principal investigator or faculty advisor below:

It is advised that you save or print a copy of this form.

Rushika De Bruin  Larissa K. Barber, Ph.D.
Doctoral Student  Faculty Advisor
Department of Psychology  Department of Psychology
Email: rushika.debruin@gmail.com  Email: ohs1.niu@gmail.com

I understand the above and grant my consent to participate:
Yes, continue with survey
No, exit survey
APPENDIX B
VIGNETTES
Study 1

Instructions:
Instructions: Below is a description of a work situation. Please read the description below carefully and respond to the questions below based on the scenario.

Concurrent Multitasking
Your company is an advertising agency and you are an employee on the creative team for the marketing department. The entire creative team has been summoned to attend a meeting introducing a new product. While the creative team leader discusses the product, all team members are using electronic devices to take notes. During the final 15 minutes of the meeting, one colleague is surfing the web and sending emails to friends to plan an upcoming happy hour while participating in the discussion.

Sequential Multitasking
Your company is an advertising agency and you are an employee on the creative team for the marketing department. The entire creative team has been summoned to attend a meeting introducing a new product. While the creative team leader discusses the product, all team members are using electronic devices to take notes. During the final 15 minutes of the meeting, one colleague is surfing the web and sending emails to friends to plan an upcoming happy hour instead of participating in the discussion.

Study 2

Instructions:
Instructions: Below is a description of a work situation. Please read the description below carefully and respond to the questions below based on the scenario.

Irrelevant Concurrent Multitasking
Your company is an advertising agency and you are an employee on the creative team for the marketing department. The entire creative team has been summoned to attend a meeting introducing a new product. While the creative team leader discusses the product, all team members are using electronic devices to take notes. During the final 15 minutes of the meeting, one colleague is surfing the web and sending emails to friends to plan an upcoming happy hour while participating in the discussion.

Relevant Concurrent Multitasking
Your company is an advertising agency and you are an employee on the creative team for the marketing department. The entire creative team has been summoned to attend a meeting introducing a new product. While the creative team leader discusses the product, all team members are using electronic devices to take notes. During the final 15 minutes of the meeting, one colleague is surfing the web and sending emails to other members of the creative team about product information while participating in the discussion.
Social Judgments of Electronic Multitasking

Agency and Communalism (Fiske et al., 2002)
Response options: 1 (Not at all) to 5 (Extremely)
Overall, would you describe this person’s behavior as…?

Agentic
1. Competent
2. Confident
3. Capable
4. Efficient
5. Intelligent
6. Skillful

Communal
7. Friendly
8. Well-intentioned
9. Trustworthy
10. Warm
11. Good-natured
12. Sincere

Scenario Perceptions (Sliter et al., 2015)
1. Was harm intended by the coworker?
   1 = No intent to harm; 2 = Ambiguous intent to harm; 3 = Clear intent to harm

2. How rude was the coworker?
   1 = Not at all rude; 4 = Extremely rude

Manipulation Check
1. To what extent was your coworker participating in the meeting?
   Response options: 1 (Not at all) to 5 (To a great extent)
2. Would you describe your coworkers behavior as multitasking?
   Response options: 0 (No), 1 (Yes)
APPENDIX D
POLYCHRONICITY SCALE
Inventory of Polychronic Values (IPV) Bluedorn et al (1999)
Response Options: 1(Strongly agree) to 7 (Strongly disagree).

Please indicate how much you agree or disagree with the following statements.
1. I like to juggle several activities at the same time
2. I would rather complete an entire project every day than complete parts of several projects (R)
3. I believe peoples should try to do many things at once
4. When I work by myself, I usually work on one project at a time (R)
5. I prefer to do one thing at a time (R)
6. I believe people do their best work when they have many tasks to complete
7. I believe it is best to complete one task before beginning another (R)
8. I believe it is best for people to be given several tasks and assignments to perform.
9. Select strongly disagree for this item. (*)
10. I seldom like to work on more than a single task or assignment at the same time (R)
11. I would rather complete parts of several projects everyday than complete an entire project.

R= Reverse Coded
*Attention check item
APPENDIX E
FIVE-FACTOR MODEL SCALE
Big Five: Mini-IPIP (Donnellan et al., 2006)
Response Options: 1 (Very Inaccurate) to 5 (Very Accurate).

On the following pages, there are phrases describing people's behaviors. Please use the rating scale below to describe how accurately each statement describes you. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age.

1. Am the life of the party (E)
2. Sympathize with others' feelings (A)
3. Get chores done right away (C)
4. Have frequent mood swings (N)
5. Have a vivid imagination (I)
6. Don't talk a lot (E)
7. Am not interested in other people's problems (A)
8. Often forget to put things back in their proper place (C)
9. Am relaxed most of the time (N)
10. Am not interested in abstract ideas (I)
11. Talk to a lot of different people at parties (E)
12. Feel others' emotions (A)
13. Like order (C)
14. Select “very inaccurate” for this item (*)
15. Get upset easily (N)
16. Have difficulty understanding abstract ideas (I)
17. Keep in the background (E)
18. Am not really interested in others (A)
19. Make a mess of things (C)
20. Seldom feel blue (N)
21. Do not have a good imagination (I)

Note: Items 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, and 20 are reverse scored.

E = Extraversion
A = Agreeableness
C = Conscientiousness
N = Neuroticism
I = Intellect/Openness

*Attention check item
Buss-Perry Scale (Buss & Perry, 1992)

Please rate each of the following items in terms of how characteristic they are of you. Use the following scale for answering these items.

Response options: 1(Extremely uncharacteristic of me) to 7 (Extremely characteristic of me)

1. I flare up quickly but get over it quickly.
2. When frustrated, I let my irritation show.
3. I sometimes feel like a powder keg ready to explode.
4. I am an even-tempered person.
5. Some of my friends think I’m a hothead.
6. Sometimes I fly off the handle for no good reason.
7. I have trouble controlling my temper.
8. I am sometimes eaten up with jealousy.
9. At times I feel I have gotten a raw deal out of life.
10. Other people always seem to get the breaks.
11. Please select “extremely characteristic of me.”*
12. I wonder why sometimes I feel so bitter about things.
13. I know that “friends” talk about me behind my back.
15. I sometimes feel that people are laughing at me behind my back.
16. When people are especially nice, I wonder what they want.

1-7: Anger
8-15: Hostility

*Attention check item embedded in measure
Demographics
1. Gender
2. Age
3. Ethnicity
4. Current employment status: Full-time (30hrs or more a week), Part-Time, Unemployed

Stanford Sleepiness Scale (Hoddes, Dement, & Zarcone, 1972)
5. Peoples’ alertness changes at various times throughout the day. How do you feel currently?
   1 = Feeling active, vital, alert, or wide awake
   2 = Functioning at high levels, but not at peak, able to concentrate
   3 = Awake, but relaxed; responsive but not fully alert
   4 = Somewhat foggy, let down
   5 = Foggy, losing interest in remaining awake; slowed down
   6 = Sleepy, woozy, fighting sleep; prefer to lie down
   7 = No longer fighting sleep, sleep onset soon; having dream-like thoughts