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## Experimental evidence on remote workers' overstatement likelihood

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### Resumo/Abstract

This study investigates the effect of physical distance and social norms on workers' overstatement likelihood. I expect remote workers to have a higher overstatement likelihood and office workers to be more influenced by peers' social norms. I manipulate physical distance and peers' social norms in an experimental case scenario. My results show that physical distance and peers' social norms exert no significant effect on overstatement likelihood. My post hoc analysis with two mediating variables, auditing beliefs, and the company's social norms, show that both counteract participants' overstatement likelihood. Results point to different perceptions from remote workers and office workers regarding the company's display of information and incentives.

### Modalidade/Type

Artigo Científico / Scientific Paper

### Área Temática/Research Area

Controladoria e Contabilidade Gerencial (CCG) / Management Accounting

## Experimental evidence on remote workers' overstatement likelihood

### Introduction

This study examines the effects of remote work and the moderating effect of social norms on workers' overstatement likelihood. Remote work represents a flexible work arrangement where the employee can work for a particular period or all the time, from home or another remote location outside the office (Groen, van Triest, Coers, & Wtenweerde, 2018). Therefore, in these circumstances, employees establish a physical distance<sup>1</sup> between themselves and the company. Since the beginning of 2020, due to the COVID-19 outbreak, companies that were still reluctant to accept remote work were compelled to send employees home, creating a "new normal" (Farrer, 2020). This work arrangement was not news to several companies that increasingly engaged in remote work due to cost reduction with real estate, environmental concerns related to commuting, and access to a global talent pool (Narayanan, Menon, Plaisent, & Bernard, 2017).

For managers, the physical distance between employees and the company represents a challenge since output controls are standard for employees' performance appraisal (Groen et al., 2018). Physical distance affects employees' perceived monitoring, enabling them to misreport (Lill, 2020). It also reduces the interaction between remote workers with their peers and the company (Golden, Veiga, & Dino, 2008). These remote work aspects create issues to monitor the employee directly and for the employee to observe peers' reporting behaviors.

However, since employees in remote work have a reduced (or inexistent) possibility to observe their peers' behaviors, they are less likely to conform to social norms<sup>2</sup> that are in place in the office (Cialdini & Goldstein, 2004; Cialdini & Trost, 1998). Employees' conformity to a social norm can be highly beneficial for the company when there is a norm for honesty. However, it can also bring a lot of damage when it is the norm to cheat (Abernethy, Bouwens, Hofmann, & Lent, 2020). This study investigates how peers' behavior can moderate physical distance effects on employees' misreporting.

I predict in H1 that remote workers have a higher overstatement likelihood compared to office workers. I also expect that peers' misreporting influence on overstatement likelihood will be higher for office workers. This means that individuals are less inclined to be affected by their peers' behavior in a remote work setting. Consequently, I predict in H2 that office workers conform more to their peers' misreporting behavior than remote workers

To test these predictions, I conduct a 2 x 2 between-participants web-based experiment. I manipulate the physical distance in two levels: Remote and Office. In the Remote condition, the employee works primarily from home and does not interact with peers daily. Conversely, in the Office condition, the employee works in the local company headquarters and interacts with peers daily. I also manipulate Peers' social norms on two levels: honest and dishonest. I measure employees' self-reporting by the likelihood of the employee's overstatement likelihood of extra hours.

I find no significant results from the remote workers' and office workers' overstatement likelihood. Moreover, I find no significant results for the interaction between physical distance and social norms. Given the non-significant results, I conduct an exploratory investigation to understand these results. My post hoc analysis shows an indirect effect of physical distance on overstatement likelihood through two mediating variables: auditing beliefs and the company's social norm (in the form of participants' belief in the need to work extra hours).

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<sup>1</sup> Physical distance is part of a broader construct that affects remote work. I borrow the concept of physical distance (i.e., spatial distance) from Trope & Liberman (2010) Construal Level Theory (CLT), which also includes: social distance, temporal distance, and hypothetical distance to better capture the most salient aspect of remote work, that is the distance between the employee and the company.

<sup>2</sup> Social norms can be differentiated as what people commonly do (i.e., descriptive norms) and what is commonly approved (i.e., injunctive norms) (Cialdini et al., 1991). This literature has also shown that norms can influence people's behaviors. In this study, as in others in the accounting literature (Huddart & Qu, 2012; Maas & Rinsum, 2013; Tayler & Bloomfield, 2011), social norms are seen as norms of what people (i.e. peers) do in the company.

My results posit that remote workers show higher audit beliefs than their office counterparts, which I attribute substantially to the lack of additional information about the company's monitoring that increased the importance of the company's message about peers' overstatement likelihood<sup>3</sup>. Furthermore, my results show that the influence of auditing beliefs on overstatement likelihood was only significant to remote workers. Additionally, my results show that office workers have higher beliefs that the company's social norm is to work extra hours than remote workers, which creates higher overstatement likelihood. I test these results in addition to peers' social norms and find that, consistent to social norm theory, the interplay between peers' social norms (descriptive norm) and company's social norm (injunctive norm) increased office workers' overstatement likelihood. I explain these with additional tests for peer identification and belongingness, which are fundamental to enacting social norms.

Finally, regression results show that both audit beliefs and the company's social norms are significant to overstatement likelihood. And that both explain why the main results from H1 and H2 were not found, since remote workers indirectly affect overstatement likelihood through audit beliefs and office workers indirectly affect overstatement likelihood through the company's social norms. While audit beliefs reduce overstatement likelihood, the company's social norms increase it, which do not suppress each other but are working in different directions.

This study contributes to the literature in several ways. First, I build on Lill (2020) and Brügggen, Feichter, & Haesebrouck (2020), to extend the findings on honest reporting (e.g., Evans, Hannan, Krishnan, & Moser, 2001 and Huddart & Qu, 2012) by exploring the impact that the reduction of direct monitoring on account of flexible work arrangements have on employees' self-reporting behavior. My results show that, regardless of their location, individuals do not behave differently. In addition, my results show that auditing beliefs influence remote workers' overstatement likelihood, with company's information being significant to remote workers and office workers in different stances. Specifically to remote workers, I suggest that company's information about peers, when being the only source of information, is highly influential to monitoring perceptions. These results might also relate to other information that companies provide to remote workers when no additional direct peer information is available.

Second, building on Brunner & Ostermaier (2019), I add to the accounting literature on social norms by exploring how peers' influence plays a role in workers' behavior. Prior accounting studies have investigated how control system design affects social norms and the consequent behavioral change (e.g., Abdel-Rahim & Stevens, 2018; Cardinaels & Yin, 2015; Tayler & Bloomfield, 2011). However, there's still a lot to investigate these effects on employee behavior when there's a diminished opportunity for controls to enact, such as flexible work arrangements (Groen et al., 2018; Guo, Libby, Liu, & Tian, 2019). I also add to social norm theory with the interplay of descriptive and injunctive norms (Smith et al., 2012), since I discover that social norms affected employees differently, but only when additionally subjected to injunctive norms from the company. Additionally, I add the perspective of physical distance on the connection between social identity and social norms (Smith & Louis, 2009; White, Smith, Terry, Greenslade, & McKimmie, 2009), given that my results show that remote workers were not affected by social norms due to their lack of identification and sense of belongingness.

Third, I contribute to management control systems literature on the role of audit adoption as mitigators of pernicious behavior (Cardinaels & Jia, 2016). My results show that the link between auditing and behavioral change is not always straightforward, specifically in environments with incentives (company's social norms) and external influence (peers' social norms). Additionally, my results contribute to the new stream of literature that explores COVID-19's effects on employees' perception of monitoring and surveillance (Delfino & van der Kolk, 2021; Hafermalz, 2020; Lee, 2021), which affected their auditing perceptions.

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<sup>3</sup> I also suggest that, based on recent research from (Delfino & van der Kolk, 2021; Hafermalz, 2020; Malik, Sinha, & Goel, 2020), increased distrust from companies towards employees and perpetual monitoring through calls and (video)messaging created higher monitoring perceptions on remote workers. Albeit, I do not test for participants' trust perceptions, since these studies were presented after my data collection.

The study has several practical implications. Since the COVID-19 outbreak, companies were forced to adapt and discover how to control employees when working remotely. My research focuses on individuals' self-reporting. However, I believe that results could be looked at in different reporting aspects. Whether participants are reporting their working hours (e.g., service companies), performance, or even budget reports, individuals are still subjected to the same set of factors considered in the study: physical distance, social norms, auditing perceptions, and company's social norms.

Based on the study's results, companies could use their current technology-based control systems more effectively. Nonetheless, companies must design their control systems based on the amount of interaction they want employees to experience. Even though interaction among employees can be beneficial for employees' work, it can also be harmful in dishonest environments, as seen when comparing remote workers and office workers. My results suggest that auditing beliefs can affect remote workers' overstatement likelihood due to possible perceptions of monitoring that the message from the company is providing. Additionally, my results also show that the company's incentives to ensure employees' effort might backfire when combined with peers' reported behavior for office workers. Companies can consider that remote workers and office workers have different perceptions from the company's messaging, especially when peers' interactions can highlight pervasive behavior.

## **Background and hypotheses development**

### **Remote work and misreporting**

After COVID-19's outbreak, new data shows significant organizational changes to promote employees' adaptation, such as technology and systems usage, core processes, new behavioral and cultural understandings (McKinsey Global, 2020). Remote work environments must adhere to control aspects based on trust, communication, and autonomy to succeed (Abdelkader, 2014; Christ, Sedatole, Towry, & Thomas, 2008). Companies frequently employ output (results) controls to assess remote workers performance and encourage informal interactions as a form of (behavioral) control (Allen, Golden, & Shockley, 2015; Cooper & Kurland, 2002; Groen et al., 2018; Kurland & Egan, 1999). Adding to that, re-engineered performance management appraisals after COVID-19 outbreak show greater emphasis from companies over the impact of communication and informal interactions with employees (Wigert & Barrett, 2020). To guarantee that, companies often apply systems where the employee is required to self-report their performance and can engage with other employees and supervisors. This software allows companies to assess their employees' progress and develop their engagement with peers and supervisors.

Prior research shows that physical distance can increase misreporting since information asymmetry between the employee and the company offers more opportunities to be dishonest and a smaller probability for the employee to get caught (Lill, 2020). Conflicting results show that dishonest individuals tend to choose to work remotely to act on their dishonesty (Brüggen et al., 2020). Since several of these employees today are compelled to work from home, it is still crucial for companies to control opportunistic behavior.

Software and Apps might help deal with control issues since they can provide valuable data to managers, such as hours worked, project completion, amount of calls received, etc. Previous research corroborates that auditing is efficient in mitigating misreporting (Cardinaels & Jia, 2016). However, this data is often unreliable, seeing that the employee provides much of it, or the amount of information is so large that monitoring becomes humanly impossible (e.g., call logs). This would even distrust results that show better performance from remote workers than in-office workers, since research suggests that self-reports might be inflated or inaccurate (Allen et al., 2015).

Research shows that remote workers feel an increased pressure to perform better since the possibility of continuing to do remote work is attached to their excellent performances (Richardson & Mckenna, 2014). This suggests that remote workers face a bigger opportunity to misreport and feel pressured to show good results when self-reporting. With that, I predict that remote workers will have a more opportunistic behavior compared to office workers. Since individuals are less bounded to less perceived (mutual) monitoring and offer better opportunities for employees to self-inflate their

performance appraisal, I predict that remote workers have higher overstatement likelihood than office workers. H1 formally states this prediction:

**H1: Remote workers' overstatement of hours is higher than office workers' overstatement of hours.**

### **Social norms and Remote Work**

Consistent with prior literature over the importance of technology-based controls on remote work, software and Apps also provide another vital feature to employees and company actors: interaction. Interaction can be achieved through several technological tools<sup>4</sup> that enable the employee to engage with her peers and supervisors. These tools help avoid the social and professional isolation that remote workers experience, helping them develop better interpersonal relationships and increasing the flow of information between themselves and the company (Purvanova, 2014).

Despite acknowledging the importance of these technological tools, remote workers believe that they are still incomparable to face-to-face interaction (Richardson & Mckenna, 2014). This suggests that technology allows companies' interaction with employees and ensures that employees interact with each other. However, the established connection is still less powerful than the ones that are made personally<sup>5</sup>. Reinforcement of workplace relationships in remote work environments is also crucial to knowledge sharing, paramount to several organizational structures (Cascio & Aguinis, 2008). These workplace relationships amongst peers are also highly dependent on the intensity of the work's remote work. The frequency that an employee works remotely is negatively associated with coworker relationships (Gajendran & Harrison, 2007).

Psychological research has already established that social norms are able to inform behavior via example (Cialdini, Demaine, Sagarin, Barrett, & Winter, 2006), that they need to be salient to elicit behavioral changes (Cialdini, Reno, & Kallgren, 1990) and that social interaction is a pivotal component for people to understand which social norms are in place (Real & Rimal, 2003). Prior research shows that individuals face an emotional cost for not conforming to honest social norms that are in place (Bicchieri & Xiao, 2009; Fischer & Huddart, 2008). While, when there's a social norm for dishonesty, individuals can justify their self-interested behavior and engage in dishonest behavior (Gino, Ayal, & Ariely, 2009; Kish-Gephart, Harrison, & Trevino, 2010; Smerdon, Offerman, & Gneezy, 2019).

Corporate scandals such as Enron and Volkswagen are extreme examples of dishonest behavior in the workplace. However, small acts (e.g., slack creation, overstating performance, lying in negotiations) are more common and, when accumulated, can also harm the company (Gino, 2015). It is a common mistake to assume that only morally corrupt individuals engage in this kind of behavior since psychological research shows that a shift in the individuals' perception of social norms for dishonesty can increase bad behavior (Cialdini, Kallgren, & Reno, 1991; Gino et al., 2009). This happens because when individuals engage in dishonest behavior, they need to justify these acts by comparing themselves with others (Bicchieri & Xiao, 2009).

The engagement in self-interested behavior consistent with the conformity to dishonest social norms is dependent on the degree that individuals identify themselves to the observed group (Wenzel, 2005). This suggests that, given their identification with their peers, individuals are more inclined to conform to dishonest social norms when observing that this is a norm among peers.

These results are consistent with situations where individuals can use peers' information to feel more comfortable about their dishonesty. However, when individuals do not have this information or, more precisely, when this information is bounded to an effect such as physical distance, individuals tend to be less influenced by their peers (Brucks, Reips, & Ryf, 2007). This

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<sup>4</sup> Companies often rely on the same system to control and interact with their employees, however other communication tools such as Slack, Google Hangouts, Skype and others are also used for interaction and (informal) monitoring.

<sup>5</sup> To my knowledge, there is still no consistent research that shows that these perceptions changed after COVID-19 outbreak. However, I speculate that previous isolation concerns that affected remote workers might have increased during the pandemic, even though companies increased their overall interactions on video chats and other types of communication. I based my speculation on Kniffin et al. (2020)' results.

reasoning is in line with psychological research since the physical distance is also one of the components of Latané's Social Impact Theory<sup>6</sup> (Latané, Liu, Nowak, Bonevento, & Zheng, 1995) regarding social influence. Hence, by being physically apart from the company (and consequently, their peers), employees might be less affected by peers' influence than in the close distance.

More precisely, I predict that remote workers will be less affected by their peers' reporting behavior than office workers. These predictions are counterintuitive since prior literature suggests that lower perceived monitoring increases the possibility and probability that employees will misreport. However, the reduction of interaction common to remote work settings will make employees less susceptible to peers' social norms influence. H2 formally states this prediction:

**H2: Peers' social norms influence is stronger to office workers than to remote workers on overstatement likelihood.**

## Method

### Research Instrument

The case scenario<sup>7</sup> depicts a situation where the business analyst (i.e., the participant) works for an IT company named TJS. The background story portrays information about its year of foundation, size, locations worldwide, products, and services. It also characterizes the business analyst's function in the company and the number of other business analysts who work in similar positions under the firm's local management.

After this introduction, I assign participants to one of the two Physical Distance manipulations. Going forward, participants read more information about their work requirements, alongside colleagues' work requirements, such as budget and forecasting for new products. In that instance, it is explicitly stated that both their work and their colleagues' work require an equivalent amount of time and effort to finish. This means that they can infer about their colleagues' working hours with their amount of hours.

It is also explicit that the company relies on project completion and self-reports of weekly working hours to evaluate employees. On that note, the company's culture assumes that working hard means working a lot of hours. Employees who overcommit to the company's culture (i.e., work extra hours) are preferable for raises and promotions over the ones that do not work as many hours. It's also evident for participants that their compensation is based upon contract hours (i.e., 40 hours per week) with a fixed salary plus the variable compensation - paid at the end of the month - based on the amount of weekly extra working hours. This establishes a clear motivation for employees to report extra hours since it results in better prospects for their future in the company and more money at the end of the month.

Since working hours are so crucial for TJS, employees are required to input their weekly amount of working hours (contract hours + extra hours) into TimemanagementTJS, the company's system. They are also given a baseline of their average weekly working hours (55 hours per week, or 40 contract hours + 15 extra hours<sup>8</sup>). Furthermore, participants also read that, despite the report, it's improbable that participant's and colleagues' working hours will be audited later.

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<sup>6</sup> Social Impact Theory suggests that physical distance (as opposed to immediacy) is part of the determinants of social influence. The other two determinants are strength (e.g. persuasiveness) and number of sources of influence. In this paper I only analyze the aspect of physical distance as a determinant for the reduction of social influence.

<sup>7</sup> Case scenarios are commonly used in accounting literature to inquire about the likelihood of behavior (e.g., Hartmann & Maas, 2010). In this study, the case scenario's adoption was a design choice to avoid internal validity issues. I wanted to ensure no reduction of control in the experiment since the Remote condition would require participants to complete the task in a different place.

<sup>8</sup> This was a design choice to ensure that participants understood the variability of their extra working hours on that particular week. However, this amount of extra hours could be a limitation to the study's results, considering that several countries' legislations establish a maximum of weekly working time.

## Manipulations

'Physical Distance' and 'Peers' Social Norms' manipulations are embedded in the scenario. In addition to the standard part of the case scenario, participants assigned to the Remote condition read that they work from home and do not interact with colleagues daily<sup>9</sup>. At the same time, participants assigned to the Office condition read that they work from the local company headquarters building and interact with colleagues daily.

Similarly, management reminds participants in the 'Peers' Social Norms' manipulations in an email about their requirement to input their weekly working hours (i.e., contract hours + extra hours) in TimemanagementTJS. The email also displays information about how overstating their hours would be harmful to the company<sup>10</sup>. Finally, participants in 'Peers' Social Norms – Dishonest' condition read that "colleagues are overstating their actual working hours". While participants in 'Peers' Social Norms – Honesty' condition read that "colleagues are reporting their actual working hours".

In the interest of maintaining identical manipulations across conditions, it was necessary to design a procedure that conveyed peers' information plausibly and similarly to all participants. Since peers' actions were unobservable to participants, preventing them from inferring about peers' (dis)honesty, it was necessary to provide the information itself<sup>11,12</sup>.

## Dependent Variable

I measure the dependent variable – Overstatement likelihood - by asking participants to indicate their (hours) overstatement likelihood<sup>13</sup> over the situation described in the case scenario with the statement: *From 1 to 7, where 1 is "Definitely not do it" and 7 is "Definitely do it" how likely would you overstate your number of worked hours in this situation?*

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<sup>9</sup> I decided to clarify to the participant the amount of interaction they had with colleagues to control for possible problems associated with participants' perception of their interactions or knowledge of what other colleagues were doing. Participants' past experiences working remotely alone and/or with a group of people could influence their decision. The clear statement of (zero) interaction would emulate a more precise scenario to participants. This is also in line with the aforementioned aspect of remote work (i.e. Trophe and Liberman's CLT) that involves a bigger concept than just the physical distance. Nonetheless, to guarantee the study's internal validity, I chose to not leave it to participants' perception because this could impair their own perception of the social norms as well.

<sup>10</sup> Information about the detrimental effects of overstating their hours was crucial, in order to guarantee unbiased judgments from participants due to only receiving instructions that would incentivize them to overstate their hours (low possibility of hours audited + all the benefits from working long hours).

<sup>11</sup> Another possible real-life scenario that might give employees the same type of information would be if they could see colleagues' self-reported performance perceiving the social norms through social comparison. However, software that company's often use to acquire this kind of information (e.g. Timecamp, Harvest, Toggl) are generally focused on collaborative work as opposed to this study.

<sup>12</sup> Previous research focused on presenting descriptive norms' manipulation (i.e., peers' information) as descriptive information about peers' past behaviors, giving participants enough data to compare their behavior with what is presented (Schultz et al., 2007). Accounting research also employs the same procedure of active manipulations of peers' honesty or dishonesty by conveying messages about peers' behavior to participants (Cardinaels & Jia, 2016). I borrowed the idea of explicitly informing the participant about peers' behavior (i.e., *the majority of your colleagues are overstating their actual working hours* and *the majority of your colleagues are reporting their actual working hours*) from previous research. However, as opposed to Cardinaels and Jia (2016) and Schultz et al. (2007), I did not add any proportion of colleagues that were (dis)honest alongside the *majority* information<sup>12</sup>. Since the experiment was a case scenario and not an experimental task, counting the hypothetical colleagues' proportions was improbable for the case reliability.

<sup>13</sup> Behavioral intentions have been fairly used in previous literature when assessing actual behavior (Greaves, Zibarras, & Stride, 2013; Jones & Kavanagh, 1996). Actual conduct is easier to evaluate by observation, as seen in laboratory experiments, with some limitations or field experiments. On that note, both Theory of Reasoned Action and Theory of Planned Behavior suggest that intentions are the closest predictor of behavior (Ajzen, 1991; Sheeran, 2002). It is also relatively common and useful in the literature to inquire about intentions rather than the actual behavior (Chang, 1998).

## Results

### Participants

I recruited participants on Prolific<sup>14</sup> and prescreened for participants that 1) were fluent in English, to avoid possible language-related misunderstandings, and 2) with at least an undergraduate-level education, and 3) that marked "I sometimes work from a central place of work and sometimes remotely" in their work characteristics. Participants read on the study's description that they would participate in a decision-making study based on a presented case scenario. Participants were randomly assigned to different experimental conditions.

The demographics showed that 46.15% of participants had an undergraduate degree, with the remaining participants holding an MBA (17.95%), an MSc (29.49%), and a Ph.D. (6.41%). Moreover, 92.95% of participants stated in the post-experimental questionnaire that they had previous remote work experience<sup>15</sup>. This confirms that the platform's prescreening recruited the targeted participants.

The experiment was conducted twice, with 45 participants<sup>16</sup> in the first round and 139 participants in the second round, with 184 participants. I first assured that participants are evenly distributed through the experimental conditions<sup>17</sup>. I only excluded participants<sup>18</sup> who failed two manipulation checks and/or two attention checks from the sample, resulting in 156 participants total. Excluded participants were evenly distributed in all experimental conditions<sup>19</sup>, with an average time of study's completion of 394.08 seconds<sup>20</sup> (vs. 547.70 seconds from the other 156 participants,  $t=1.77$ ,  $p=0.07$ ). This could mean that participants did not read the instructions and the case properly, which caused them to fail the attention and/or manipulation checks.

Participants had an average age of 31.41 years ( $SD=8.13$ ), and 63 (40.38%) were female, and one did not want to disclose their gender. They had an average of 9.48 years of work experience and 3.83 years

on their current position.<sup>21</sup> Participants were mainly from European countries<sup>22</sup>, with the majority of them from the United Kingdom (25.64%), Portugal (16.03%), and Poland (10.90%). Finally, participants in the first round of the experiment received an average of £4.73 per hour, while participants in the second round received £5.24 per hour.

### Hypotheses test

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<sup>14</sup> Prolific.ac is a web-based platform that is oriented to academic research where social and economical science experimental subjects can be recruited. In comparison to other platforms such as MTurk and CrowdFlower, Prolific participants provided higher quality response data (Peer et al., 2017).

<sup>15</sup> The 7.05% of participants that did not confirmed their previous remote work experience could have misinterpreted the question, since *previous* could mean before the pandemic. There is no significant difference between these participants answers and the rest of the 92.54%.

<sup>16</sup> This first round was conducted beforehand for a pretest and was added later for further analysis. Notably, my results are similar if I exclude the first round.

<sup>17</sup> Peers' dishonesty manipulation: 51.09 % (High) and 48.91% (Low). Physical distance manipulation: 51.63% (Remote) and 48.37% (Office).

<sup>18</sup> I decided to only exclude participants that failed more than one attention check and/or more than one manipulation check since I detected that some participants might have failed it by mistake (e.g. clicking on the wrong button). To ensure that this was the case, I asked participants after their payment whether they had any points of clarification and several of them confirmed that they clicked on it by mistake.

<sup>19</sup> Excluded participants were distributed as follows: 14 in the remote manipulation, 14 in the office manipulation, 13 in the dishonest condition and 15 in the honest condition.

<sup>20</sup> The original mean score for the excluded participants' time was 924.16 seconds. However, this number was driven by 3 participants that spent 1352, 2210 and 4494 seconds on the experiment and were timed-out by Prolific (i.e. experiment was completed by the platform and not by the participant). Since this is not a regular situation, and, comparatively, represented a greater amount of time compared to the rest of the sample, I took this participants out of this analysis. Participants that spent an unusual amount of time on the experiment could also be included in the same reasoning as the ones that spent very little time, since they could be doing the study without the proper attention (i.e. browsing the internet or doing some other task).

<sup>21</sup> No significant effect was found in any of the participants' descriptive characteristics used as controls.

<sup>22</sup> Participants from different nationalities were also evenly distributed among the manipulations.

### Do remote workers overstate more?

Contrary to the predictions, participants assigned to the Remote condition had, on average, a lower likelihood to overstate their working hours compared to the Office condition (2.82,  $SD = 1.74$  vs. 3.01,  $SD = 1.96$ ). These results, however, were not statistically significant between conditions ( $\beta = 0.18$ ,  $t = 0.63$ ,  $p > 0.1$ , two-tailed).

To test for H1, I regress participants assigned Physical Distance manipulation (*Remote\_Manipulation*) on overstatement likelihood (*Overstate*). Hence, I find no support for H1. Further investigation of the simple effects does not show significant results. Table 1 depicts all results.

**Table 1 – Effects of Remote Condition, Social Norms Condition and Interaction on Overstatement likelihood<sup>a</sup>**

VARIABLES	(1)	(2)
	<i>Overstate</i>	<i>Overstate</i>
<i>Remote_Condition</i>	0.18 (0.29)	0.09 (0.41)
<i>Peers_Norms</i>		0.06 (0.41)
<i>Remote*Peers</i>		0.17 (0.59)
Constant	2.82* (0.20)	2.79* (0.28)
Observations	156	156
R-squared	0.0025	0.0048

Standard errors in parentheses

\* $p < 0.01$ , \*\* $p < 0.05$ , \*\*\* $p < 0.1$

<sup>1</sup> One-tailed

<sup>a</sup>Each column represents a different OLS regression model

Since information asymmetry is an issue in principal-agent relationships, especially when the agent faces a lower probability of enduring any consequences, this result is entirely counterintuitive. Participants in the remote condition behave similarly to participants in the office condition. The increased physical distance between themselves and the company did not make their answers significantly different from their office manipulation counterparts. This is in line with Brügger et al.'s (2020) findings<sup>23</sup> since less honest individuals tend to look for a less monitored environment (i.e., remote work), but when controlled for the selection effect, the location has no significant impact on individuals' honesty.

Another important aspect of my research participants is that the whole sample was selected after the COVID-19 outbreak, with about six months of remote work (i.e., August 2020). As mentioned before in section 2, being actively able to choose between work with less monitoring, whether remotely or in another distributed type of work arrangement, and being compelled to work remotely is a radical transition. The previous strong connection between less perceived monitoring and consequent misreporting might be impaired by this "new normal" situation that we are currently living in.

<sup>23</sup> These data was also collected after the COVID-19 outbreak, corroborating my reasoning and results about fundamental changes that occurred in individuals' perceptions about remote work.

**Do social norms exert different effects on remote workers?**

My predictions imply that social norms might have a moderating effect on physical distance. To test for H2 and capture how social norms can (increase) decrease physical distance's effects on overstatement likelihood, I regress the interaction between *Peers\_Norms* and *Physical\_Distance* on *Overstate*. I find no significant effect from the interaction ( $\beta= 0.17, t = 0.28, p > 0.1$ , two-tailed) on *Overstate* (see Table 1 for full results). This points to other possible factors that might drive overstatement likelihood other than the manipulated variables. I explore these factors in the next section.

**Supplemental analysis**

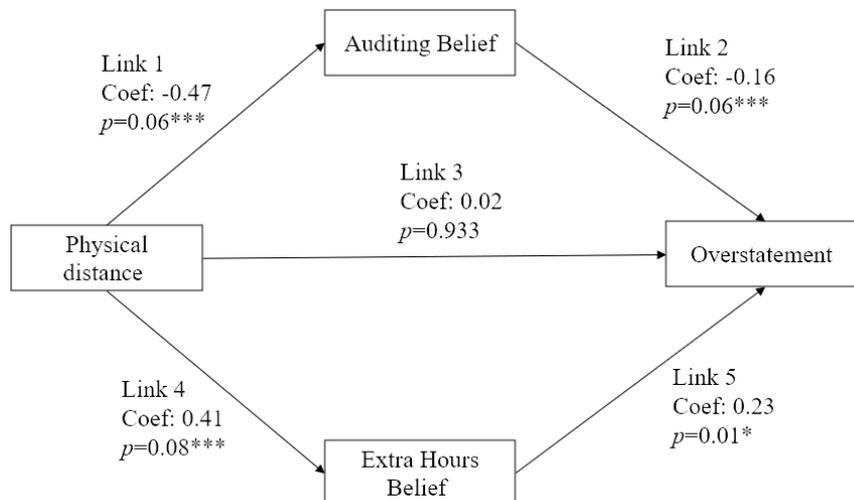
**The role of auditing beliefs and company's social norms on overstatement likelihood**

Due to the lack of significant results I explore two variables as mediating variables to the indirect effects of physical distance on overstatement likelihood. The first is auditing likelihood, and the second is the incentive to overstate (in the case scenario, reflected as the company's social norm to work extra hours). These explanatory variables cannot be separated since they were investigated jointly. More specifically, the classical economical theory posits that individuals are self-interested and that penalties (in my scenario, the auditing likelihood) might mitigate opportunistic behavior. Albeit, social norms that incentivize pernicious behavior can be used to justify individuals' self-interest (Ayal, Celse, & Hochman, 2019; Hochman & Levine, 2021).

A possible explanation for my conflicting results in H1 could be related to participants' perception of monitoring (and, therefore, their perspective on getting caught lying). To avoid any misconceptions on the unequal auditing belief and capture only the participants' perception over it, I explicitly told them that "*you also know that it is very unlikely that yours and your colleagues' working hours would be audited later*" in every condition. Hence, their auditing belief is based solely on their perception of physical distance manipulation. To examine this explanation, I investigate whether their audit belief can explain their overstatement likelihood decisions. On a seven-point Likert scale, I asked participants post experimentally to indicate their agreement level to the sentence "*I believe that there's a great likelihood that my hours will be audited*".

I use structural equations-based path analysis to test the indirect effects of *Physical\_Distance* to *Overstatement likelihood* through *Audit\_Belief*. Figure 2 shows the path analysis. The goodness of fit is confirmed with a root mean square of error approximation (RMSEA) below the threshold of 0.06, standardized root mean squared of approximation (SRMR) of 0.015, below the cutoff value of 0.08 and Comparative Fit Index (CFI) above the threshold of 0.95 (Hu & Bentler, 1999).

**Figure 2 – Indirect effects of Physical\_Distance to Overstatement likelihood through Audit\_Belief and Extrahours\_Belief**



\*p < 0.01, \*\*p < 0.05, \*\*\*p < 0.1

Consistent with the possibility mentioned above, the physical distance manipulation is significant to participants' beliefs on auditing. Results show that the effect of *Physical\_Distance* on *Audit\_Belief* is significant (Link 1 of Figure 2,  $\beta=-0.47$ ,  $z= -1.83$ ,  $p<0.1$ ), and that the effect of *Audit\_Belief* on *Overstatement likelihood* is also significant (Link 2 of Figure 2,  $\beta=-0.16$ ,  $z=-1.84$ ,  $p<0.1$ )<sup>24</sup>. Moreover, the mean scores results showed that participants in the remote condition had higher audit beliefs compared to participants in the office condition (3.85,  $SD=0.19$  versus 3.37,  $SD=0.17$ ), with a significant difference between these results ( $t=1.85$ ,  $p<0.05$ ).

These results explain why the theory from H1 was not supported. However, these results are still inconsistent with what previous literature posited since prior results point to a lower perception of auditing belief (i.e., "getting caught") related to a higher distance from the company (or peers). Furthermore, consistent with theory (Cardinaels & Jia, 2016), participants that have higher (lower) auditing belief displayed lower (higher) overstatement likelihood<sup>25</sup>, mean scores confirm that this difference is significant (3.19,  $SD=0.21$  versus 2.61,  $SD=0.19$ ,  $t=1.99$ ,  $p<0.05$ ). In sum, participants that had greater belief in being audited were less likely to overstate.

### Differences between remote workers and office workers on auditing likelihood

Additionally, when divided by the *Physical\_Distance* conditions, participants in the remote work condition were significantly influenced by whether they had higher (lower) audit beliefs to display lower (higher) overstatement likelihood. Mean scores results showed a significant difference between remote workers with lower beliefs about auditing than remote workers with higher beliefs on overstatement likelihood decisions (3.31,  $SD= 0.29$  versus 2.39,  $SD=0.24$ ,  $t=2.44$ ,  $p<0.01$ ). Results from office workers are in the same direction, with office workers with higher (lower) audit beliefs overstating less (more). However, results are not significantly different (3.09,  $SD=0.31$  versus 2.90,  $SD=0.32$ ,  $t=0.40$ ,  $p>0.10$ )<sup>26</sup>. Table 2 depicts all results.

<b>Table 2 - Descriptive statistics for Process Variables</b>			
<b>Panel A: Means (Standard Deviations) for Auditing Likelihood</b>			
<b>Physical Distance Condition</b>			
<b>Remote workers</b>	3.85	(0.19)	
	n = 81		
<b>Office workers</b>	3.37	(0.17)	
	n = 75		
<b>Total**</b>	3.62	(0.13)	
	n = 156		
<b>Panel B: Means (Standard Deviations) for Overstatement likelihood</b>			
<b>Physical Distance Condition</b>	<b>Auditing Beliefs</b>		
	<b>Low</b>	<b>High</b>	<b>Total</b>
<b>Remote workers*</b>	3.31 (0.29) n= 38	2.39 (0.24) n=43	2.82 (0.29) n = 81
<b>Office workers</b>	3.09 (0.31) n = 43	2.90 (0.32) n = 32	3.01 (0.22) n = 75

<sup>24</sup> Result from the indirect effect of *Remote\_Manipulation* on *Overstatement* is also significant ( $\beta= 0.17$ ,  $t = 1.93$ ,  $p < 0.05$ ), confirming the mediating role of audit belief and the company's social norm.

<sup>25</sup> I used the mean score of *Audit\_Belief* (3.62,  $SD= 0.13$ ) to generate a dummy variable with 0 as low audit belief and 1 as high audit belief.

<sup>26</sup> Another possible explanation for these results is related to the shift in the work norm regarding monitoring perceptions. Since COVID-19 forced employees out of the office, the office condition, with peers (and mutual monitoring) is not an

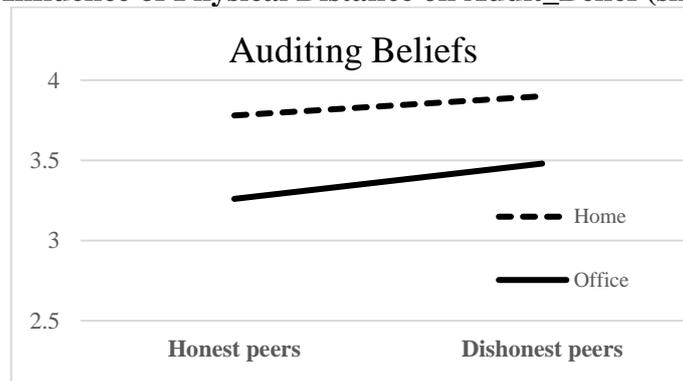
Results are significantly different at \* $p < 0.01$ , \*\* $p < 0.05$ , \*\*\* $p < 0.1$ .

Again, these results could explain why H1 was not supported, since remote workers not only believed more in their likelihood of being audited but were also the only ones that significantly reduced their overstatement likelihood because of it. These results show that, while office workers had the same behavior (i.e., mean scores are in the same direction) from their remote counterparts, their belief on the likelihood of auditing was not significantly influential to their overstatement likelihood decisions.

One possible explanation for this shift in auditing beliefs is how the second manipulation (i.e., peers' social norms) affected participants. Since peers' social norms are a source of information about how one should behave (or, in the case of dishonest peers, could behave), social norms could also influence participants' beliefs over auditing. More specifically, when participants receive the information about peers' behavior, they can either see that as (a) a warning to not overstate since they might be caught or (b) justify their overstatement likelihood tendencies. In sum, individuals might have higher (lower) audit beliefs due to their physical distance while also experiencing a higher (lower) influence from auditing due to peers' social norms. Moreover, it might also explain the difference in perception between remote and office workers towards their audit beliefs.

To test this possibility, I also explore how participants behaved when segregated by the physical distance and the peers' social norms manipulation. Figure 3 displays the effects of both manipulations on auditing beliefs.

**Figure 3 – Influence of Physical Distance on Audit\_Belief (simple-effects)**



Mean scores results show that consistently with the previous results, remote workers still had higher audit beliefs compared to office workers. When faced with honest peers, remote workers had significantly higher auditing beliefs than office workers (3.78,  $SD=0.27$  vs. 3.26,  $SD=0.21$ ,  $t=1.53$ ,  $p<0.1$ ). When faced with dishonest peers, participants showed higher auditing beliefs compared with honest peers, with remote workers again displaying higher scores (3.90,  $SD=0.27$  vs. 3.48,  $SD=0.27$ ,  $t=1.08$ ,  $p>0.1$ ), however, results are not significantly different. Again, these results suggest that remote workers and office workers saw the peers' social norms information as a warning, specifically when faced with dishonest peers.

Additional results show no significant difference between remote workers with dishonest peers' information and honest peers' information (3.90,  $SD=0.27$  vs. 3.78,  $SD=0.27$ ,  $t=0.32$ ,  $p>0.1$ )<sup>27</sup>. The same results were consistent with office workers (3.48,  $SD=0.27$  vs. 3.26,  $SD=0.21$ ,  $t=0.64$ ,  $p>0.1$ ). Again, these results show that the company's information indeed increased (decreased) participants' auditing beliefs. However, it also suggests that, due to the lack of significance, participants were affected by a company's information on their peers' behavior and not by the peer behavior per se. Table 3 depicts all results.

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option anymore. Therefore, it is more likely for participants in the remote condition to believe in auditing likelihood, since it is the current situation that they are facing.

<sup>27</sup> The standard deviations from the results suggest that a bigger sample with increased statistical power could present significant results.

**Table 3 - The effect of Peers' social norms on remote and office workers' auditing beliefs and overstatement likelihood**

<b>Panel A: Means (Standard Deviations for Auditing Beliefs)</b>		
<b>Physical Distance Condition</b>	<b>Peers' social norms</b>	
	<b>Honest***</b>	<b>Dishonest</b>
<b>Remote workers</b>	3.78 (0.27) n= 37	3.90 0.27 n=44
<b>Office workers</b>	3.26 (0.21) n = 38	3.48 0.27 n=37
<b>Total</b>	3.52 (0.17) n=75	3.71 0.19 n=81

Results are significantly different at \*p < 0.01, \*\*p < 0.05, \*\*\*p < 0.1.

My results are somewhat comparable to Schedlinsky, Schmidt, & Wöhrmann (2020) results that show that surveillance negatively affects the motivational aspects of relative performance information (RPI). The authors actively manipulate surveillance on their experimental design with detrimental effects on RPI's social comparison benefits. My design does not manipulate surveillance, consisting only in conveying the peers' social norms from the company. Nevertheless, due to the results, participants might perceive the company's information as a display of surveillance. Yet, compared to Schedlinsky et al. (2020), the control was not pernicious to remote workers' behavior, decreasing their overstatement likelihood.

Overall, this exploratory analysis suggests that remote workers might interpret the company's information about peers more strongly than their counterparts. Remote workers could be analyzing any information from the company as surveillance that captures peers' reported information. This information may be more substantial to remote workers due to the lack of other information that they receive from the peers, as in, the company provides the only information about their peers. Conversely, the reason for this might be related to how I framed remote work to participants. More specifically, participants in the remote condition read that they have no interaction with their peers<sup>28</sup>, while in the office condition, they interact with peers daily. To test for this reasoning, on a seven-point Likert scale, I asked participants post experimentally to indicate their agreement level to the sentence "*My decision was influenced by the fact that I am working from home*" and "*My decision was influenced by the lack of interaction that I have with my colleagues*" if remote workers<sup>29</sup>. And "*My decision was influenced by the fact that I am working in the office*" and "*My decision was influenced by the amount of interaction that I have with my colleagues*" if office workers<sup>30</sup>.

Since the framing of the sentence is questioning the reason for their decision, I regress their overstatement likelihood answers as the independent variable and use the other variables as the dependent ones, respectively *RW\_Influence*, *Lack\_Interaction*, *Office\_Influence*, and *Interaction\_Influence*. Untabulated results only show significance for the relationship between *Overstatement likelihood* and *Lack\_Interaction* ( $\beta=0.28$ ,  $t=2.78$ ,  $p<0.01$ ), which could corroborate my reasoning that the lack of peer interaction was influential to their assessment of overstatement likelihood. Yet, it does not confirm whether the lack of peer interaction was responsible for the higher

<sup>28</sup> This type of remote work is consistent with several types of knowledge workers and the gig economy workforce (Storey, Steadman, & Davis, 2018). In terms of experimental design, my design is different than the ones presented by Lill (2020) and Blaskovich (2008) where participants had colleagues in the same room of the experiment (both) and on a webchat (only Blaskovich's study).

<sup>29</sup> Only remote workers read these statements.

<sup>30</sup> Only office workers read these statements.

audit belief tendencies<sup>31</sup>. Still, office workers were not significantly influenced by auditing beliefs on their overstatement likelihood decisions. A possible explanation for it is that another factor also influenced participants in the office condition in addition to the auditing beliefs.

### **Company's social norms and overstatement likelihood**

Returning to social norms theory, I predicted on my second hypothesis that social norms would moderate participants' overstatement likelihood, with remote workers being less influenced by it due to their physical distance, as indicated in Latané et al. (1995). Albeit, in the case scenario, participants read that the company values employees that work a significant number of hours and that these employees are rewarded with bonuses and promotions<sup>32</sup>. Since the company conveys both the social norms manipulation and this statement, participants may perceive this statement as an additional social norm from the company<sup>33, 34</sup>. In sum, participants might have perceived two norms instead of just the one from their peers (i.e., honest or dishonest peers' manipulation).

Prior literature shows that social norms can be communicated indirectly and that the framing of an incentive can direct behavioral changes (Lieberman, Duke, & Amir, 2019). Moreover, participants see overstatement likelihood of working hours as a justified behavior (Hochman & Levine, 2021) due to the company's incentive to "go the extra mile." This means that an incentive to work extra hours might also affect participants to reduce their negative perception of overstating their working hours. Finally, social norm theory (Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007) posits that both injunctive (i.e., the company's norm to work extra hours) and descriptive norms (i.e., peers' social norms) are influential to individuals.

Nevertheless, there is no consensus over how conflicting norms might influence behavior, with the possibility of motivating or reducing it (Smith & Louis, 2009; Smith et al., 2012). For example, participants received the same information about the company's expectancy of working hours but received different pieces of information about their peers' behavior. Prior literature has explored the interplay of injunctive and descriptive norms, with congruent and conflicted norms as the basis for behavioral change (Smith et al., 2012).

Again, to examine this explanation, I investigate whether their perception of the company's social norm can explain their overstatement likelihood decisions, more specifically, their belief that the company wants them to work extra hours. On a seven-point Likert scale, I asked participants post experimentally to indicate their agreement level to the sentence "*I believe that the company wants me to work a great number of hours*".

Using SEM path analysis, I explore the indirect effects of the physical distance on overstatement likelihood through the participants' beliefs on the company's norm of working extra hours (hereafter *Belief\_Extrahours*). Consistent with the explanation, the physical distance manipulation is significant to participants' beliefs on the company's extra hours norm. Results show that the effect of *Physical\_Distance* on *Belief\_Extrahours* is significant (Link 4 of Figure 2,  $\beta=0.41$ ,  $z=-0.47$ ,  $p<0.1$ ), and that the effect of *Belief\_Extrahours* on *Overstatement likelihood* is also significant (Link 5 of Figure 2,  $\beta=0.23$ ,  $z=2.42$ ,  $p<0.05$ ).

Again, consistent with the previous explanation, mean scores results show that participants in the remote condition had lower beliefs that the company required them to work extra hours, compared

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<sup>31</sup> Another possibility is that participants in the remote condition feel less trusted, which is consistent with prior literature from before (Weisner & Sutton, 2015) and after (Delfino & van der Kolk, 2021; Hafermalz, 2020; Kniffin et al., 2020) COVID-19. Reasoning would be that remote workers already feel less trusted than their counterparts (a perception that is not controlled or explored in my design) and, alongside with the lack of interaction with peers, would see company's information as a reassurance that they are being closely monitored. I did not explore this possibility in this study due to the lack of information collected regarding participants trust and surveillance perceptions.

<sup>32</sup> This was a design choice to make sure that participants had enough motivation to overstate, since, due to the use of the case scenario, they were not receiving financial incentives.

<sup>33</sup> One participant was very explicit about his/her decision to overstate due to the company's pressure to work extra hours, on the post-experimental open-ended question. Which aligns to the theory that this might be considered a norm from the company.

<sup>34</sup> This is consistent with the concept of injunctive norms.

to their office counterparts (5.23, SD=0.17 vs. 5.64, SD=0.16,  $t=-1.72$ ,  $p<0.05$ ). Conversely, participants with lower beliefs on the company's norm declared lower overstatement likelihood than higher belief participants<sup>35</sup> (2.48, SD=0.19 vs. 3.23, SD=0.20,  $t=-2.54$ ,  $p<0.01$ ). These results partly explain the lower mean scores from office workers on audit beliefs compared to remote workers. They suggest that office workers were more concerned about the company's social norm to work extra hours than about the possibility of auditing. Table 4 depicts all results.

<b>Table 4 - The effect of Physical Distance on Overstatement likelihood mediated by Company's Social Norms</b>			
<b>Panel A: Means (Standard Deviations) for company's social norms</b>			
<b>Physical Distance Condition**</b>			
<b>Remote workers</b>	5.23	(0.17)	n = 81
<b>Office workers</b>	5.64	(0.16)	n = 74
<b>Total</b>	5.43	(0.12)	n = 155
<b>Panel B: Means (Standard Deviations for Overstatement likelihood)</b>			
<b>Physical Distance Condition</b>	<b>Company's social norms</b>		
	<b>Low</b>	<b>High</b>	<b>Total</b>
<b>Remote workers*</b>	2.48	3.17	2.82
	0.24	(0.29)	(0.19)
	n= 41	n=40	n = 81
<b>Office workers**</b>	2.48	3.28	3.01
	0.31	(0.29)	(0.22)
	n = 25	n = 50	n = 75

Results are significantly different at \* $p < 0.01$ , \*\* $p < 0.05$ , \*\*\* $p < 0.1$ .

Results, displayed in Figure 4, are in the same direction when divided by the peers' social norms. With an increase in the company's social norms effect in office workers when receiving information about dishonest peers compared to honest peers (5.88, SD=0.18 vs. 5.42, SD=0.26,  $t=1.44$ ,  $p<0.1$ ).

<sup>35</sup> I used the mean score of *Belief\_Extrahours* (5.37, SD= 0.11) to generate a dummy variable with 0 as low belief and 1 as high belief.

**Figure 4 - Influence of Physical Distance on Extrahours\_Belief (simple-effects)**



These results are consistent with prior social norms literature that shows that descriptive norms can enhance the effect of supportive injunctive norms (Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2018; Smith et al., 2012). More specifically, both peers' dishonest social norms and the company's social norms are directed to enhance more overstatement likelihood, significantly how participants' justification might contribute to the process. Not only are they reading that their peers are overstating, allowing them to justify their overstatement likelihood (i.e., "everybody is doing it"), but they are also aware that their bonuses and promotions are based on working extra hours (i.e., "the company is forcing me to overstate").

Contrary to that, remote workers are not significantly affected by their peers' social norms (5.06, SD=0.25 vs. 5.43, SD=0.23,  $t=-1.04$ ,  $p>0.1$ ) in their belief of company's norms, which is consistent with results from their higher auditing belief. This is in line with the predictions in the second hypothesis, which focused on the possibility of higher influence of social norms on office workers than remote workers on overstatement likelihood. One of the underlying theories behind this reasoning relates to the constitution of social norms, specifically that social norms are bounded to individuals' identification with the group that presents the norm (Lapinski & Rimal, 2005; White et al., 2009). Social identification is also much prominent in organizational environments that allow individuals to interact with each other, establish trust, and develop a relationship easier with individuals with higher proximity (lower physical distance) (Hinds & Kiesler, 2002, p.173). Since participants in the remote condition do not have interactions with colleagues, it is less likely that they are able to identify themselves with their groups. This would explain why the social norms were only significant to office workers.

To test for this explanation, on a seven-point Likert scale, I asked participants post experimentally to indicate their agreement level to two sentences, adapted from De Cremer & Van Vugt (1999), "*How much do you identify yourself with your colleagues?*" and "*Do you consider yourself as belonging to your group of colleagues?*". Mean scores show that remote workers significantly identify less with colleagues (3.39, SD=0.16 vs. 3.85, SD=0.18,  $t=-1.89$ ,  $p<0.05$ ) and consider themselves less belonging to the group of colleagues (3.50, SD=0.18 vs. 4.41, SD=0.17,  $t=-3.61$ ,  $p<0.01$ ). In sum, this results suggest that remote workers were not affected by peers' social norms and company's social norms due to their lack of identification and belongingness to their colleagues.

Finally, since both variables – audit belief and company's social norms - were mediating physical distance effects on overstatement likelihood, it is important to investigate how the interplay of these variables affected overstatement likelihood. More specifically, whether both variables (collectively or solely) were suppressing or enhancing participants' overstatement likelihood. I regress *Audit\_Belief* and *Belief\_ExtraHours* on *Overstatement likelihood* with both low and high belief in company's social norms (i.e., belief in working extra hours). Untabulated results show that, as expected from prior results, both variables are significant to participants' overstatement likelihood, which is consistent with the different responses from remote workers and office workers to their

effects. Moreover, their effects are counteracting each other, with *Audit\_Belief* decreasing ( $\beta=-0.16$ ,  $t=-1.85$ ,  $p<0.1$ ) and *Belief\_ExtraHours* increasing ( $\beta=0.23$ ,  $t=2.43$ ,  $p<0.05$ ) overstatement likelihood, but not suppressing one another (i.e., both relationships are significant). This is also consistent with the previous results that these mediating variables were significant to different relationships, with audit belief to remote workers and company's social norms to office workers.

## Conclusion

Previous literature on remote workers' reporting behavior showed increased opportunistic behavior due to reduced monitoring perceptions. I predicted that remote workers would demonstrate higher overstatement likelihood than office workers. My results show no significant difference between remote workers' and office workers' overstatement likelihood. I also based my predictions on peers' influential role in individuals' overstatement likelihood. Prior literature posits that physical distance would give social norms less opportunity to enact, creating a less opportunistic environment when companies have harmful social norms. I found no significant results for this theory, either.

I explore these results further in a post hoc analysis with auditing beliefs and company's social norms as mediating variables to the indirect effect of physical distance on overstatement likelihood. My results show that auditing beliefs were significant to remote workers, decreasing their overstatement likelihood. These results are a possible indication that, due to the lack of interaction with peers, company's information about possible auditing was much more influential to remote workers than to office workers. Future research should explore how remote workers with different degrees of interaction would react to company's message about peers' overstatement.

Further, my results show that company's social norm only significantly mediated the effect of office workers to overstatement likelihood. I interpret this in the light of social norm theory, which states that the interplay between an injunctive norm (company's norm) and a descriptive norm (peers' norms) increases the directed behavior. These results add to a stream of literature about the detrimental effects of incentives, showing that even non-financial incentives, such as the one from the study, can increase employees' pernicious behavior. I also explore why company's social norm was not significant to remote workers and find that, consistent to theory, social identification plays a role into social norms effectiveness, and that remote work aspects make it harder for individuals' social identification.

Overall, my results show that physical distance (i.e., different locations) and peers' social norms do not affect individuals' behavior per se. However, they can enact different perceptions on individuals that, consequently, affect individuals' self-reporting behavior. Results also show that an expressive amount of previous research conducted on the topic before COVID-19 might be significantly impaired by the "new normal." It means that every possible control issue that companies' faced before the pandemic became a new and utterly different issue now.

My study's limitation is that several remote work aspects were affected by COVID-19, changing employees' behavior and perceptions dramatically. If, before the pandemic, dishonest employees self-selected themselves to work in a less (perceived) monitored environment (Brüggen et al., 2020), this option is no longer feasible (at least until it is completely safe to return to the offices). Another crucial difference is that, both because of the mandatory change and to avoid loneliness, communication-based tools have also become common which took out every possible alternative to investigate remote workers interaction-free. On that, monitoring perceptions, social identification, and the company's social norms have also dramatically changed, making my results utterly unexpected from a previous literature perspective.

## References

- Abdel-Rahim, H. Y., & Stevens, D. E. (2018). Information system precision and honesty in managerial reporting: A re-examination of information asymmetry effects. *Accounting, Organizations and Society*, 64, 31–43. <https://doi.org/10.1016/j.aos.2017.12.004>
- Abdelkader, A. (2014). Benefits and Challenges of Remote Working in Egypt. *SSRN Electronic Journal*, (May), 1–29. <https://doi.org/10.2139/ssrn.2862969>

- Abernethy, M. A., Bouwens, J., Hofmann, C., & Lent, L. van. (2020). *Altruism, Social Norms, and Incentive Contract Design*.
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211. <https://doi.org/10.1080/10410236.2018.1493416>
- Allen, T. D., Golden, T. D., & Shockley, K. M. (2015). How effective is telecommuting? Assessing the status of our scientific findings. *Psychological Science in the Public Interest*, 16(2), 40–68. <https://doi.org/10.1177/1529100615593273>
- Ayal, S., Celse, J., & Hochman, G. (2019). Crafting messages to fight dishonesty: A field investigation of the effects of social norms and watching eye cues on fare evasion. *Organizational Behavior and Human Decision Processes*, (May 2018). <https://doi.org/10.1016/j.obhdp.2019.10.003>
- Bicchieri, C., & Xiao, E. (2009). Do the Right Thing: But Only if Others Do So. *Journal of Behavioral Decision Making*, 208(October 2008), 191–208. <https://doi.org/10.1002/bdm>
- Blaskovich, J. L. (2008). Exploring the Effect of Distance: and Group Decisions. *Journal of Information Systems*, 22(1), 27–46.
- Brucks, W. M., Reips, U. D., & Ryf, B. (2007). Group norms, physical distance, and ecological efficiency in common pool resource management. *Social Influence*, 2(2), 112–135. <https://doi.org/10.1080/15534510701193436>
- Brüggen, A., Feichter, C., & Haesebrouck, K. (2020). *Home office: Causal Evidence on Selection and Location Effects from Telecommuting*.
- Brunner, M., & Ostermaier, A. (2019). Peer Influence on Managerial Honesty: The Role of Transparency and Expectations. *Journal of Business Ethics*, 154(1), 127–145. <https://doi.org/10.1007/s10551-017-3459-9>
- Cardinaels, E., & Jia, Y. (2016). How Audits Moderate the Effects of Incentives and Peer Behavior on Misreporting. *European Accounting Review*, 25(1), 183–204. <https://doi.org/10.1080/09638180.2015.1042889>
- Cardinaels, E., & Yin, H. (2015). Think Twice Before Going for Incentives: Social Norms and the Principal's Decision on Compensation Contracts. *Journal of Accounting Research*, 53(5), 985–1015. <https://doi.org/10.1111/1475-679X.12093>
- Cascio, W. F., & Aguinis, H. (2008). Staffing Twenty-first-century Organizations. *The Academy of Management Annals*, 2(1), 133–165. <https://doi.org/10.1080/19416520802211461>
- Chang, M. K. (1998). Predicting unethical behavior: A comparison of the theory of reasoned action and the theory of planned behavior. *Journal of Business Ethics*, 17(16), 433–445. [https://doi.org/10.1007/978-94-007-4126-3\\_21](https://doi.org/10.1007/978-94-007-4126-3_21)
- Christ, M. H., Sedatole, K. L., Towry, K. L., & Thomas, M. A. (2008). When formal controls undermine trust and cooperation. *Strategic Finance*, January, 39–44. Retrieved from [http://miha.ef.uni-lj.si/\\_dokumenti3plus2/196843/9\\_christ2008sf.pdf](http://miha.ef.uni-lj.si/_dokumenti3plus2/196843/9_christ2008sf.pdf)
- Cialdini, R. B., Demaine, L. J., Sagarin, B. J., Barrett, D. W., & Winter, P. L. (2006). Managing social norms for persuasive impact. *Social Influence*, 1(1), 3–15. <https://doi.org/10.1080/15534510500181459>
- Cialdini, R. B., & Goldstein, N. J. (2004). *Social Influence: Compliance and Conformity*. (1974), 591–621. <https://doi.org/10.1146/annurev.psych.55.090902.142015>
- Cialdini, R. B., Kallgren, C. A., & Reno, R. R. (1991). A Focus Theory of Normative Conduct: A Theoretical Refinement and Reevaluation of the Role of Norms in Human Behavior. *Advances in Experimental Social Psychology*, 24(C), 201–234. [https://doi.org/10.1016/S0065-2601\(08\)60330-5](https://doi.org/10.1016/S0065-2601(08)60330-5)
- Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A Focus Theory of Normative Conduct: Recycling the Concept of Norms to Reduce Littering in Public Places. *Journal of Personality and Social Psychology*, 58(6), 1015–1026. <https://doi.org/10.2307/2037635>
- Cialdini, R. B., & Trost, M. R. (1998). Social Influence: Social Norms, Conformity, and Compliance. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (pp. 151–192). McGraw-Hill.

- Cooper, C. D., & Kurland, N. B. (2002). Telecommuting, professional isolation, and employee development in public and private organizations. *Journal of Organizational Behavior*, 23(SPEC. ISS.), 511–532. <https://doi.org/10.1002/job.145>
- De Cremer, D., & Van Vugt, M. (1999). Social identification effects in social dilemmas: A transformation of motives. *European Journal of Social Psychology*, 29(7), 871–893. [https://doi.org/10.1002/\(SICI\)1099-0992\(199911\)29:7<871::AID-EJSP962>3.0.CO;2-I](https://doi.org/10.1002/(SICI)1099-0992(199911)29:7<871::AID-EJSP962>3.0.CO;2-I)
- Delfino, G. F., & van der Kolk, B. (2021). Remote working , management control changes and employee responses during the COVID-19 crisis. *Accounting, Auditing and Accountability Journal*, (March). <https://doi.org/10.1108/AAAJ-06-2020-4657>
- Evans, J. H., Hannan, R. L., Krishnan, R., & Moser, D. V. (2001). Honesty in managerial reporting. *Accounting Review*, 76(4), 537–559. <https://doi.org/10.2308/accr.2001.76.4.537>
- Farrer, L. (2020). The New Normal Isn't Remote Work. It's Better. Retrieved July 19, 2020, from <https://www.forbes.com/sites/laurelfarrer/2020/05/12/the-new-normal-isnt-remote-work-its-better/#2b874ee92405>
- Fischer, B. P., & Huddart, S. (2008). Optimal Contracting with Endogenous Social Norms. *American Economic Review*, 98(4), 1459–1475.
- Gajendran, R. S., & Harrison, D. A. (2007). The Good, the Bad, and the Unknown About Telecommuting: Meta-Analysis of Psychological Mediators and Individual Consequences. *Journal of Applied Psychology*, 92(6), 1524–1541. <https://doi.org/10.1037/0021-9010.92.6.1524>
- Gino, F. (2015). Understanding ordinary unethical behavior : why people who value morality act immorally. *Current Opinion in Behavioral Sciences*, 3, 107–111. <https://doi.org/10.1016/j.cobeha.2015.03.001>
- Gino, F., Ayal, S., & Ariely, D. (2009). Contagion and differentiation in unethical behavior: The effect of one bad apple on the barrel. *Psychological Science*, 20(3), 393–398. <https://doi.org/10.1111/j.1467-9280.2009.02306.x>
- Golden, T. D., Veiga, J. F., & Dino, R. N. (2008). The Impact of Professional Isolation on Teleworker Job Performance and Turnover Intentions: Does Time Spent Teleworking, Interacting Face-to-Face, or Having Access to Communication-Enhancing Technology Matter? *Journal of Applied Psychology*, 93(6), 1412–1421. <https://doi.org/10.1037/a0012722>
- Greaves, M., Zibarras, L. D., & Stride, C. (2013). Using the theory of planned behavior to explore environmental behavioral intentions in the workplace. *Journal of Environmental Psychology*, 34, 109–120. <https://doi.org/10.1016/j.jenvp.2013.02.003>
- Groen, B. A. C., van Triest, S. P., Coers, M., & Wtenweerde, N. (2018). Managing flexible work arrangements: Teleworking and output controls. *European Management Journal*, 36(6), 727–735. <https://doi.org/10.1016/j.emj.2018.01.007>
- Guo, L., Libby, T., Liu, X. (Kelvin), & Tian, Y. (2019). Vertical Pay Dispersion, Peer Observability, and Misreporting in a Participative Budgeting Setting. *Contemporary Accounting Research*. <https://doi.org/10.1111/1911-3846.12513>
- Hafermalz, E. (2020). Out of the Panopticon and into Exile: Visibility and control in distributed new culture organizations. *Organization Studies*, (1966). <https://doi.org/10.1177/0170840620909962>
- Hartmann, F. G. H., & Maas, V. S. (2010). Why business unit controllers create budget slack: Involvement in management, social pressure, and Machiavellianism. *Behavioral Research in Accounting*, 22(2), 27–49. <https://doi.org/10.2308/bria.2010.22.2.27>
- Hinds, P. J., & Kiesler, S. (2002). *Distributed work*.
- Hochman, G., & Levine, T. (2021). Robin Hood meets Pinocchio: Justifications increase cheating behavior but decrease physiological tension. *Journal of Behavioral and Experimental Economics*. <https://doi.org/10.1016/j.socec.2021.101699>
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>

- Huddart, S. J., & Qu, H. (2012). Rotten Apples and Sterling Examples: Moral Reasoning and Peer Influences on Honesty in Managerial Reporting. *Ssrn*, (April), 1–37. <https://doi.org/10.2139/ssrn.2133072>
- Jones, G. E., & Kavanagh, M. J. (1996). An experimental examination of the effects of individual and situational factors on unethical behavioral intentions in the workplace. *Journal of Business Ethics*, 15(5), 657–674. [https://doi.org/10.1007/978-94-007-4126-3\\_33](https://doi.org/10.1007/978-94-007-4126-3_33)
- Kish-Gephart, J. J., Harrison, D. A., & Trevino, L. K. (2010). Bad Apples , Bad Cases , and Bad Barrels : Meta-Analytic Evidence About Sources of Unethical Decisions at Work. *Journal of Applied Psychology*, 95(1), 1–31. <https://doi.org/10.1037/a0017103>
- Kniffin, K. M., Narayanan, J., Anseel, F., Antonakis, J., Ashford, S. P., Bakker, A. B., ... Wilmot, M. P. (2020). *COVID-19 and the Workplace: Implications, Issues, and Insights for Future Research and Action*. <https://doi.org/10.1037/amp0000716>
- Kurland, N. B., & Egan, T. D. (1999). Telecommuting: Justice and Control in the Virtual Organization. *Organization Science*, 10(4), 500–513. <https://doi.org/10.1287/orsc.10.4.500>
- Lapinski, M. K., & Rimal, R. N. (2005). An explication of social norms. *Communication Theory*, 15(2), 127–147. <https://doi.org/10.1093/ct/15.2.127>
- Latané, B., Liu, J. H., Nowak, A., Bonevento, M., & Zheng, L. (1995). Distance matters: physical space and social impact. *Personality and Social Psychology Bulletin*, 21(8), 795–805.
- Lee, H. (2021). Changes in workplace practices during the COVID-19 pandemic: the roles of emotion, psychological safety and organisation support. *Journal of Organizational Effectiveness: People and Performance*, ahead-of-p(ahead-of-print), 97–128. <https://doi.org/10.1108/joepp-06-2020-0104>
- Levy, A. (2020). Work from home is here to stay after coronavirus. Retrieved July 19, 2020, from <https://www.cnbc.com/2020/05/11/work-from-home-is-here-to-stay-after-coronavirus.html>
- Lieberman, A., Duke, K. E., & Amir, O. (2019). How incentive framing can harness the power of social norms. *Organizational Behavior and Human Decision Processes*, 151(December 2018), 118–131. <https://doi.org/10.1016/j.obhdp.2018.12.001>
- Lill, J. B. (2020). When the Boss is far away and there is shared pay: The effect of monitoring distance and compensation interdependence on performance misreporting. *Accounting, Organizations and Society*, (xxxx), 101143. <https://doi.org/10.1016/j.aos.2020.101143>
- Maas, V. S., & Rinsum, M. Van. (2013). How Control System Design Influences Performance Misreporting. *Journal of Accountig Research*, 51(5), 1159–1186. <https://doi.org/10.1111/1475-679X.12025>
- Malik, A., Sinha, S., & Goel, S. (2020). The ' Screen'ing of You and Me: Effects of COVID-19 on Counterproductive Work Behaviors. *IEEE Engineering Management Review*, 48(3), 37–43. <https://doi.org/10.1109/EMR.2020.3010323>
- McKinsey Global. (2020). *The recovery will be digital*.
- Narayanan, L., Menon, S., Plaisent, M., & Bernard, P. (2017). Telecommuting: The Work Anywhere, Anyplace, Anytime Organization in the 21st Century. *Journal of Marketing & Management*, 8(2), 47–54.
- Peer, E., Brandimarte, L., Samat, S., & Acquisti, A. (2017). Beyond the Turk : Alternative platforms for crowdsourcing behavioral research. *Journal of Experimental Social Psychology*, 70, 153–163. <https://doi.org/10.1016/j.jesp.2017.01.006>
- Purvanova, R. K. (2014). Face-to-Face Versus Virtual Teams : What Have We Really Learned ? *The Psychologist-Manager Journal*, 17(1), 2–29. <https://doi.org/10.1037/mgr0000009>
- Real, K., & Rimal, R. N. (2003). Understanding the Influence of Perceived Norms on Behaviors. *Communication Theory*, 13(2), 184–203.
- Richardson, J., & Mckenna, S. (2014). Reordering Spatial and Social Relations : A Case Study of Professional and Managerial Flexworkers. *British Journal of Management*, 25, 724–736. <https://doi.org/10.1111/1467-8551.12017>
- Schedlinsky, I., Schmidt, M., & Wöhrmann, A. (2020). Interaction of information and control systems: How the perception of behavior control affects the motivational effect of relative

- performance information. *Accounting, Organizations and Society*, 86. <https://doi.org/10.1016/j.aos.2020.101171>
- Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2007). The constructive, Destructive, and Reconstructive Power of Social Norms. *Psychological Science*, 18(5), 429–434. <https://doi.org/10.1111/j.1467-9280.2007.01917.x>
- Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2018). The Constructive, Destructive, and Reconstructive Power of Social Norms: Reprise. *Perspectives on Psychological Science*, 13(2), 249–254. <https://doi.org/10.1177/1745691617693325>
- Sheeran, P. (2002). Intention—Behavior Relations: A Conceptual and Empirical Review. *European Review of Social Psychology*, 12(1), 1–36. <https://doi.org/10.1080/14792772143000003>
- Smerdon, D., Offerman, T., & Gneezy, U. (2019). 'Everybody' s doing it': on the persistence of bad social norms. *Experimental Economics*, (0123456789). <https://doi.org/10.1007/s10683-019-09616-z>
- Smith, J. R., & Louis, W. R. (2009). Teaching and Learning Guide for: Group Norms and the Attitude–Behaviour Relationship. *Social and Personality Psychology Compass: Teaching & Learning Guide*, 3(5), 19–35. <https://doi.org/10.1086/586910>
- Smith, J. R., Louis, W. R., Terry, D. J., Greenaway, K. H., Clarke, M. R., & Cheng, X. (2012). Congruent or conflicted? The impact of injunctive and descriptive norms on environmental intentions. *Journal of Environmental Psychology*, 32(4), 353–361. <https://doi.org/10.1016/j.jenvp.2012.06.001>
- Storey, D., Steadman, T., & Davis, C. (2018). How the gig economy is changing the workforce. Retrieved from EY Americas website: [https://www.ey.com/en\\_us/tax/how-the-gig-economy-is-changing-the-workforce](https://www.ey.com/en_us/tax/how-the-gig-economy-is-changing-the-workforce)
- Taylor, W. B., & Bloomfield, R. (2011). Norms, Conformity and Controls. *Journal of Accountig Research*, 46(2), 1–23. <https://doi.org/10.1111/j.1475-679X.2011.00398.x>
- Trope, Y., & Liberman, N. (2010). Construal-Level Theory of Psychological Distance. *Psychological Review*, 117(2), 440–463. <https://doi.org/10.1037/a0018963>. Construal-Level
- Weisner, M. M., & Sutton, S. G. (2015). When the world isn't always flat: The impact of psychological distance on auditors' reliance on specialists. *International Journal of Accounting Information Systems*, 16, 23–41. <https://doi.org/10.1016/j.accinf.2014.11.001>
- Wenzel, M. (2005). Misperceptions of social norms about tax compliance: From theory to intervention. *Journal of Economic Psychology*, 26(6), 862–883. <https://doi.org/10.1016/j.joep.2005.02.002>
- White, K. M., Smith, J. R., Terry, D. J., Greenslade, J. H., & McKimmie, B. M. (2009). Social influence in the theory of planned behaviour: The role of descriptive, injunctive, and in-group norms. *British Journal of Social Psychology*, 48(1), 135–158. <https://doi.org/10.1348/014466608X295207>
- Wigert, B., & Barrett, H. (2020). Performance Management Must Evolve to Survive COVID-19. Retrieved from <https://www.gallup.com/workplace/318029/performance-management-evolve-survive-covid.aspx>