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Relative Performance Information, Advice-Seeking, and Trust in the Supervisor

BY

Ta-Tung (Stephanie), Cheng

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree

Of

Doctor of Philosophy

In the Robinson College of Business

Of

Georgia State University

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## **ACCEPTANCE**

This dissertation was prepared under the direction of the *Ta-Tung (Stephanie)*, *Cheng* Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Business Administration in the J. Mack Robinson College of Business of Georgia State University.

Richard Phillips, Dean

## DISSERTATION COMMITTEE

Dr. Ivo Tafkov (chair), Dr. Michael Majerczyk, Dr. Flora Zhou, and Dr. Jeffrey Hales (external)

## **ABSTRACT**

Relative Performance Information, Advice-Seeking, and Trust in the Supervisor

BY

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April 27, 2020

Committee Chair: Dr. Ivo Tafkov

Major Academic Unit: School of Accountancy

Relative performance information (RPI) is commonly provided or available in many organizations. While RPI can be viewed as a control that firms use to influence employee effort and performance, the presence of RPI may also encourage employees to seek advice from the supervisor, which in turn breeds employees' trust in the supervisor. This study investigates how RPI influences employee advice-seeking as well as how such advice-seeking affects trust in the supervisor. Using a laboratory experiment, I find that RPI motivates the non-bottom performing employees (i.e. top and middle performers) to seek advice from their supervisor more frequently whereas the bottom performing employees are not significantly affected by RPI to seek advice. I also find that the non-bottom performing employees' advice-seeking frequency positively influences their trust in the supervisor. Mediation analysis reveals that RPI has a positive effect on the non-bottom performing employees' trust in the supervisor and this positive effect is mediated by their advice-seeking behavior. I discuss the implications of my findings for accounting theory and practice.

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#### I. INTRODUCTION

Advice is the informational input from others that allows decision makers to consider new information, to avoid mistakes, and to make better decisions (Bonaccio and Dalal 2006). In the workplace where information is incomplete, employees can benefit from seeking advice as it often leads to an improvement in work performance, which in turn, benefits the organization (Nadler et al. 2003). Prior studies show that employees frequently prefer to seek advice from their supervisor rather than their peers because employees perceive their supervisor as more knowledgeable (Morrison 1993; Nadler et al. 2003) and more capable of providing useful information (Hanser and Muchinsky 1978; Greller and Herold 1975). It becomes crucial for employees needing advice to proactively seek it because the supervisor might not be aware of their problems or circumstances (Gibbons et al. 2003; Bonaccio and Dalal 2006). In this study, I investigate whether and how the presence of relative performance information (RPI) influences the extent to which employees seek advice from their supervisor.

It is important to study the effect of RPI on employee advice-seeking. Prior research documents that RPI is often available in many organizations, and it motivates employees to increase effort (e.g., Hannan et al. 2008; Tafkov 2013). However, a potential downside of RPI is that it also motivates employees to withhold knowledge or share inaccurate knowledge with their peers as RPI induces competitive behaviors among employees (Schnieder et al. 2018; Berger et al. 2018). Assuming RPI reduces knowledge-sharing among competing employees, seeking advice from a supervisor becomes pivotal as a supervisor can provide an efficient venue for employees to acquire useful information that helps to improve their work performance. Therefore, I investigate whether the presence of RPI may motivate employees to seek advice from their supervisor.

In addition to studying the effect of RPI on employee advice-seeking, I examine how advice-seeking influences the relationship between employees and the supervisor. Specifically, I investigate whether advice-seeking allows for the development of *trust in the supervisor*, which is an important dimension in employee-supervisor relationships. Employees' trust in the supervisor is crucial (Fulk et al. 1985; Dirk and Ferrin 2002) as Edelman Trust Barometer (2019) indicates that "*Investing in employee trust is investing in your bottom line*." Prior literature also reveals that trust in the supervisor positively influences employees' perceived fairness of performance evaluation (Fulk et al. 1985), organizational citizenship behavior (Dirks and Ferrin 2002), and task performance (Colquitt et al. 2007). Forbes (2017) points out that one of the challenges which managers face today is establishing a relationship of trust with their employees; thus, information or methods for inducing trust is necessary. As such, knowing whether advice-seeking may cultivate a trusting relationship provides firms with relevant implications regarding how RPI may be utilized to foster employees' trust in the supervisor.

I draw on psychology theory to predict that the presence of RPI will motivate employees to seek advice from their supervisor more frequently. Prior literature shows that RPI has a motivational effect on employee effort and performance, even when employees' compensation is not tied to the performance of their peers (e.g., Hannan et al. 2008; Tafkov 2013). According to Social Comparison Theory (Festinger 1954; Suls and Wheeler 2000), the motivation effect occurs because individuals have a drive to compare themselves to others and are eager to maintain a positive self-image. To increase the chances of achieving a better ranking, employees are likely to go the extra mile and solicit useful information from others. To the degree that advice-seeking behavior can be viewed as an additional costly action toward searching for useful

information, employees are more likely to seek advice from their supervisor when RPI is present compared to when RPI is absent.

I also posit that employees who receive RPI will display more trust toward a supervisor and this effect operates through the frequency of advice-seeking. Supervisors often provide useful information; therefore, by seeking advice, employees have the opportunity to reap the benefits of useful information. Due to Fundamental Attribution Error theory (Ross 1997), employees are likely to attribute to some extent the supervisor's behavior of providing useful information to dispositional factors (i.e., supervisor's trustworthiness), instead of situational factors (i.e., the supervisor's job responsibilities or duties). As employees will at least partially attribute the supervisor's behavior to her inherent trustworthiness, I contend that trust in the supervisor is likely to be engendered by employee advice-seeking.

To test my hypotheses, I conduct an experiment in which I manipulate between-subjects the presence of RPI (absent vs. present). Undergraduate students are assigned to the role of *Employee*, and a graduate student is assigned to the role of *Manager*. There are two stages in the experiment. In stage 1, employees make a series of production decisions across multiple rounds in order to maximize profit. In the RPI absent condition, employees are informed of their individual performance information. In the RPI present condition, employees are informed of their individual performance as well as the relative performance ranking. Employees in all conditions are given the opportunity to seek advice from their manager who possesses useful information about the task. Employees are paid with the earned profits and thus, in my setting, employees' compensation is not tied to the performance of their peers. The manager is paid with a fixed pay. The primary dependent variable in stage 1 is the frequency of advice-seeking. Participants maintain their roles in stage 2 and are introduced with an investment game (Berg et

al. 1995; Garrett et al. 2019). The investment game is utilized in order to capture employees' trust in the supervisor. Specifically, I employ a strategy method and ask employees to indicate the amount that they are willing to invest if they are selected to receive an endowment from the experimenter. Employees are also asked to estimate the percentage of return that they believe the manager would share with them. The primary dependent variable is the expected percentage of return, which is a proxy for employees' trust in the supervisor (Garrett et al. 2019).

Results show that the employees seek advice from the supervisor more frequently when RPI is present compared to when RPI is absent. However, this result is driven by the non-bottom performing employees (i.e., top and middle performers) whereas bottom performing employees are not significantly influenced by RPI to seek advice. The frequency of advice-seeking also positively influences the non-bottom performing employees' trust in the supervisor. Specifically, the presence of RPI has a positive effect on their trust in the supervisor and this positive effect is mediated by the frequency of advice-seeking.

This study has implications for both accounting research and practice. First, the study contributes to accounting research on advice-seeking. Prior research in accounting focuses on how individuals give advice (e.g., Leiby 2018) as well as how individuals weigh advice (e.g., Kadous, Leiby, and Peecher 2013). Very few studies have investigated what factors influence employee advice-seeking (e.g., Brooks et al. 2015; Schaefer 2013; Morrison 1993). This study sheds light on employee advice-seeking by identifying a common institutional factor - the presence of RPI that influences employees' decision to seek advice. While previous literature emphasizes how RPI affects interaction among competing peers (Wang 2017; Black et al. 2018; Berger et al. 2018; Schnieder et al. 2018), this study seeks to demonstrate that RPI also influences the interaction between employees and the supervisor, thereby suggesting that the

effect of RPI may be broader than previously documented in the literature. Specifically, while RPI may be perceived as a control that firms provide to influence employee effort and performance (Jensen and Meckling 1976) and be viewed as harmful to trust among employees (e.g., Schnieder et al. 2018), my study shows that RPI can also foster employees' trust in the supervisor by encouraging employees to seek advice. Therefore, this paper adds to the stream of literature that investigates how controls may also be utilized to build trust within organizations (Coletti et al. 2005; Garrett et al. 2019).

Finally, my results suggest that firms that provide RPI may consider offering additional mechanisms or incentives to encourage the bottom performing employees to seek advice as they are the ones who are most in need of advice but are least motivated by RPI to do so. For example, instead of merely providing information, the supervisor can offer extra assistance regarding *how* to utilize the information. This additional communication is important as although bottom performing employees may be aware that the supervisor can provide useful information, their poor rankings may prevent them from seeking advice due to lower self-efficacy regarding their ability to utilize such information. As advice-seeking helps to foster a trusting relationship within an organization, firms that do not provide RPI may consider offering other mechanisms that encourage employee advice-seeking.

The remainder of the paper is organized as follows. In Section II, I present the theory and hypotheses. In Section III, I describe the experimental design. The results are discussed in Section IV. Section V concludes.

## II. THEORY DEVELOPMENT

# Advice-Seeking

In the workplace, job-related information is often incomplete, and employees often lack the information necessary to perform their work more effectively and efficiently (Morrison 1993; Nadler et al. 2003). Such job-related information or work knowledge can also be difficult to acquire through mere observation. Additionally, some important information may only be available to the supervisor and employees do not always have access to such information. Seeking advice thus becomes pertinent to employees' success in the organization as it helps employees to facilitate the fulfillment of job requirements or to achieve excellence in their positions.

Prior literature finds that employees frequently seek advice from their supervisor rather than their peers (Morrison 1993; Nadler et al. 2003). Employees typically perceive that their supervisor is more knowledgeable and possesses information that helps to reduce the level of uncertainty faced by employees. As employees usually have a better understanding regarding when they need advice, it is crucial for employees who need advice to proactively seek advice. Furthermore, the supervisor can be wary of providing unsolicited advice (Gibbons et al. 2003; Bonaccio and Dalal 2006). Unsolicited advice is often perceived as intrusive, and knowing this hostile potential, people are hesitant to give unsolicited advice (Gibbons et al. 2003). Unsolicited advice is also often discounted more frequently than solicited advice, and knowing this possible discounting effect, people are less willing to give effortful, unsolicited advice (Bonaccio and Dalal 2006).

Despite the benefits as well as the importance of advice-seeking, employees are reluctant to seek advice even when they need it. Particularly, Brooks et al.'s (2015) experiment reveals that people withhold their action of seeking advice as they are worried about appearing incompetent. It is important to understand how firms can motivate employees' effort to seek out useful information from the supervisor, as advice-seeking tends to require additional effort. One potential way is by providing RPI, as prior studies have suggested that RPI motivates additional costly action (e.g., effort) (Hannan et al. 2008; Tafkov 2013).

# Relative Performance Information

RPI provides employees with information about how they perform on a task relative to other employees and is common in various organizations (Nordstrom et al. 1990; Song et al. 2019). In my setting, employee compensation depends on individual performance and is independent from relative performance. As employees' compensation is not tied to the performance of their peers, conventional economic theory would predict that the presence of RPI will not influence employees' effort or their advice-seeking behavior. (Frederickson 1992; Hannan et al. 2008). However, RPI may act through a behavioral mechanism that influences employee advice-seeking.

Prior literature shows that RPI has a motivational effect on employees' effort and performance even when their compensation is not tied to the performance of peers (Hannan et al. 2008; Tafkov 2013). According to Social Comparison Theory, this motivational effect arises as individuals try to compare themselves favorably with others and desire to keep a positive self-image (Festinger 195; Suls and Wheeler 2000). While economic theory suggests that people only compete for monetary rewards, social comparison theory argues that people also compete for non-monetary rewards such as performance pride and self-image (Smith 2000). Individuals exert

a higher level of effort when RPI is present as they seek to compare favorably to others and to maintain a positive self-image. For example, Tafkov (2013) shows that RPI encourages employees to increase effort. Song et al. (2018) also demonstrate that providing physicians with public RPI motivates their effort in learning the best practice. In Chan's (2018) experiment where workers can invest in costly overtime work, the author finds that RPI encourages more overtime work. Building upon prior literature, I posit that employees will be attentive to RPI provided to them and will have a drive to improve their rankings even when their compensation is not tied to the ranking. To increase their chances of achieving a higher rank, employees with RPI are more likely to seek useful information from the supervisor compared to employees without RPI.

In summary, advice-seeking requires effort and RPI motivates such effort. I draw on prior literature and contend that the presence of RPI will motivate employees to seek advice more frequently.

**H1:** Employees will seek advice *more frequently* when RPI is present compared to when RPI is absent.

## Advice-Seeking and Trust in the Supervisor

Supervisors often provide useful information to their employees (Hanser and Muchinsky 1978; Greller and Herold 1975). I contend that such useful information can influence employees' trust in their supervisor. When employees seek advice and the supervisor provides useful information, employees can attribute this behavior (i.e., providing useful information) to either dispositional (e.g., the supervisor's trustworthiness) or situational factors (e.g., the supervisor's job responsibilities and duties). Prior studies show that individuals tend to over attribute others' behavior to dispositional characteristics than to situational factors due to

Fundamental Attribution Error (Ross 1997). For example, Coletti et al. (2005) and Garrett et al. (2019) provide evidence that control-induced cooperation leads to perceived trustworthiness of the collaborators despite the fact that the cooperation is induced by the control system. I argue that when the supervisor provides useful information, employees will at least partially attribute this behavior to the supervisor's inherent trustworthiness instead of the supervisor's job responsibilities or duties. Consequently, employees are likely to perceive the supervisor as trustworthy.<sup>1</sup>

I further contend that the frequency of advice-seeking positively influences employees' trust in the supervisor. The reason is that, by seeking advice, employees are able to develop a reinforcing belief regarding the supervisor's trustworthiness through the repeated interactions. Prior literature reveals that a trusting relationship may evolve from repeated interactions (Gabarro 1978; Gulati 1995). Specifically, the trusting relationship between employees and the supervisor may derive from repeated interactions through which expectations are formed and beliefs are reinforced (Gabarro 1978). Such expectations yield a knowledge-based trust, which is a perception that the interacting partner will continue to behave in accordance with the expectations (Gulati 1995). In a similar vein, Coletti et al. (2005) suggest that individuals update their perception of the partner's trustworthiness based on their interaction histories. Garrett et al. (2019) also document that one's trusting belief in an interacting partner depends on the amount of cooperation with the same partner in prior interactions. Provided that the supervisor imparts useful information and employees at least partially attribute this behavior to the supervisor's trustworthiness, repeated interactions allow employees to form a history and reinforce their

<sup>1</sup> 

<sup>&</sup>lt;sup>1</sup> Using a laboratory experiment, Özer et al. (2018) find that information sharing as well as advice provision leads to trust in the party who shares such information.

perception of the supervisor's trustworthiness. As such, the frequency of advice-seeking positively influences the extent to which employees judge the supervisor to be trustworthy.

**H2:** The frequency of advice-seeking will positively influence the extent to which employees judge the supervisor to be trustworthy.

H1 predicts that RPI motivates employees to seek advice from the supervisor and H2 predicts that the frequency of advice-seeking positively influences employees' trust in the supervisor. Combining these arguments, I predict that the effect of RPI on trust in the supervisor is positive and will be mediated by employee advice-seeking.

**H3:** Employee advice-seeking will mediate the relation between RPI and trust in the supervisor.

It is worth noting that *without* advice-seeking, the mere presence of RPI may adversely affect the perceived trustworthiness of a supervisor. Indeed, RPI establishes a competitive environment that makes individuals perceive other people as untrustworthy (Black et al. 2018; Berger et al. 2018; Schnieder et al. 2018; Sassenberg et al. 2007). For example, Sassenberg et al. (2007) find that the competitive mindset induced by RPI has a carry-over effect on others who were not involved in the competition. As a result, in the absence of advice-seeking, the mere presence of RPI may have a negative impact on trust in the supervisor.

The predictions are graphically presented in Figure 1.

# **Insert Figure 1 here**

## III. METHOD

To test the hypotheses, I use a between-subject experimental design. The experiment is computerized using the z-Tree software (Fischbacher 2007). There are two stages in the experiment. In stage 1, I manipulate the presence of RPI (*absent* vs. *present*) and observe employees' advice-seeking behaviors. In stage 2, employees perform an investment game, in which I apply a strategy method to solicit responses regarding employees' trust in the supervisor. See Figure 2 for the experimental timeline.

# **Insert Figure 2 here**

# Participants and Procedure

Participants in this study are undergraduate and graduate students from a large public university in the United States. There are ten participants in an experimental session, consisting of nine employees and one manager who serves as a control throughout experimental sessions. I run 6 sessions with nine employees each, resulting in 54 observations in total.

All participants are informed that undergraduate students are assigned to the role of *Employee* and the graduate student is assigned to the role of *Manager*. Instead of assigning roles based on performance-based criteria, this role assignment process allows me to better test my theory by proactively preventing employees from viewing the manager as a competitor before the experiment begins. As Douthit and Majerczyk (2019) suggest that employees' perception of the manager's legitimacy can influence their subsequent behavior, assigning a graduate student to a senior role also helps maintain the fairness of the assigning process and establish the perceived legitimacy of the role in a lab environment.

Because characteristics of the advisor may influence individuals' perceptions of role legitimacy and their decisions to seek advice (Brooks et al. 2005, Heikensten & Isaksson 2019), the role of *Manager* is played by the same graduate student<sup>2</sup> in all experimental sessions to serve as a control. Doing so also allows me to reduce the noise that may arise in different sessions if the roles are played by different individuals.

At the beginning of each experimental session, all participants are seated at their respective individual computer terminals in the lab. Next, participants are instructed to sign a consent form, read the instructions, and take a quiz to ensure that they understood the instructions. Then, they work on the experimental tasks. After finishing the tasks, participants answer a post-experimental questionnaire that contains some questions related to their decision process and demographic information. At the end of each session, participants are paid their earnings from the experiment in US dollars.

# Experimental Task

In stage 1, the experimental task is adapted from Sprinkle (2000). Specifically, employees make a series of production quantity decisions across multiple rounds in order to maximize the amount of *Lira* (an experimental currency) earned in the experiment. As shown in Figure 3, the amount of *Lira* earned for a production decision is determined jointly by *production quantity decision* and the *economic condition*. The economic condition ranges from 1 to 20 with equal probability and remains constant for each of the five periods within a round. While the economic condition may vary across rounds, each participant faces the same set of economic

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<sup>&</sup>lt;sup>2</sup> The same graduate student attends all experimental sessions and thus is aware of the manipulations. The manager's behavior is not the purpose of this study and her response is also not included in the analysis.

conditions in the same order<sup>3</sup>. Participants are also informed that they face the same set of economic conditions.

# **Insert Figure 3 here**

Employees are given 220 seconds to complete the five periods in a round. The 220 seconds include 180 seconds of decision time and 40 seconds of feedback-viewing time. At the end of periods 1, 2, 3 and 4 within a trial, employees are given 10 seconds to view the feedback on their past performance. Specifically, they can see the amount of *Lira* they earn from each of their previous decisions within that round. Such information allows employees to make inferences regarding the unknown economic condition for that round. The 40 seconds (=10 seconds x 4 times) of feedback-viewing time is mandatory and a clock is displayed on the computer screen. Employees are given the opportunity to practice the task before they proceed to the real task.

# **RPI** Manipulation

In the RPI absent condition, the manager sends individual performance feedback to each employee at the end of each trial. Specifically, the manager sends individual feedback regarding the sum of the total *Lira* each employee has earned in all rounds that s/he has completed. In the RPI present condition, the manager sends individual performance information to each employee as well as each employee's relative performance ranking on the experimental task. Because there are nine employees in a session, employees are ranked from 1 to 9 based on the sum of the total *Lira* each employee has earned compared to that earned by the other eight employees<sup>4</sup>.

<sup>3</sup> To enhance experimental control, I randomly selected the economic condition for each round before the experiment sessions.

<sup>&</sup>lt;sup>4</sup> If there is a tie between two employees, the computer determines their relative rankings by adding a random number. This same logic applies to a tie among multiple employees.

Employees are able to view their own ranking as well as fellow employees' rankings from their computer screens. See Figure 4 for the example.

# **Insert Figure 4 here**

# Advice-Seeking

During stage 1 of the experiment, employees in all conditions are given the opportunity to seek advice from the manager. Employees are made aware that their manager possesses useful information which could help them narrow the range of the economic condition of each round. While the economic condition ranges from 1 to 20, advice, if sought, can cut this range to 8. For example, if the economic condition in a given round is 11 and an employee chooses to seek advice, s/he would receive a message such as "The information I have suggests that the economic condition of the current round ranges from 5 to 12". If advice is sought, an employee could make better inferences regarding the unknown economic condition. Hence, the advice, once sought, should help employees avoid making mistakes and enhance the quality of their decision-making process.

Before employees make their first output quantity decisions, they are asked whether they want to seek advice for a given round. Each employee has five opportunities to seek advice within a round– (1) before making the 1<sup>st</sup> period decision (2) before making the 2<sup>nd</sup> period decision, (3) before making the 3<sup>rd</sup> period decision, (4) before making the 4<sup>th</sup> period decision, and (5) before making the 5<sup>th</sup> period decision. Since the economic condition remains constant for each of the five decision periods, employees are allowed to seek advice only once per round. See Figure 5 for five intervals during which employees could seek advice within a round.

## **Insert Figure 5 here**

Employees are informed that because the economic condition varies from round to round, the advice sought also varies from round to round. However, employees who seek advice receive the same advice as the other advice-seeking employees within a given round. Employees who request advice receive the same advice to ensure that the quality of advice remains constant to all advice-seeking employees, thus ensuring that the ranking information is perceived as fair and meaningful to the employees.

The manager is able to identify which employee has sought advice as well as how many times each employee has sought advice. Specifically, the manager receives a summary at the end of each round regarding how many times each employee has sought advice. Employees are also informed that the manager receives such a report. The purpose of this design choice is to implement the social cost of advice-seeking. Also, in reality, the advisor often can identify who has sought advice. Employees, on the other hand, are not able to observe their peers' advice-seeking behaviors. Doing so allows me to have a stronger manipulation of RPI because if the employees could observe their peers' advice-seeking behaviors, their advice-seeking behaviors may also be influenced by their peers<sup>5</sup>.

Employees are compensated based on their performance on the experimental task plus any time bonus. The performance on the experimental task is the sum of the total *Lira* that an employee has earned over the six rounds. Additionally, an employee earns \$0.01 for every 5 seconds that s/he finishes a round before 220 seconds has expired. If an employee chooses to seek advice, his or her screen would be frozen for an additional 15 seconds. The remaining time

<sup>&</sup>lt;sup>5</sup> As such, their advice-seeking behavior may be driven by peer effect, RPI, or both.

affects how much time bonus an employee could get in each round. The time bonus mechanism is utilized to make advice-seeking costly.

Employee compensation = Sum of the total Lira + Time Bonus

The manager's compensation is a fixed pay and, thus, is not tied to the performance of employees.

The primary dependent variable is the frequency of advice-seeking. Recall that each employee is given the opportunity to seek advice once per round. As there are six rounds in stage 1, the maximum amount of advice one may have received is six. The frequency of advice-seeking is calculated using the following formula:

Frequency of Advice Seeking = 
$$\frac{\text{the number of times an employee has sought advice}}{6}$$

- ❖ The number of times an employee has sought advice ranges from 0 to 6 for each employee.
- ❖ The maximum number of times an employee can seek advice is 6.

## Investment Game

In stage 2, participants maintain their roles and are introduced with an investment game. Specifically, participants are told that one of nine employees would be randomly selected to receive an endowment of 500 *Lira*. The selected employee can keep the endowment or invest in a project being conducted by the manager. Each *Lira* that employee invests results in three *Lira* of return. Employees are informed that the manager has the right to keep all of the returns from the investment, but the manager also has the choice to share any amount of the returns with the employee. Specifically, the manager is given the opportunity to share a percentage of the return,

ranging from 0% to 100%. The manager makes her sharing percentage decision before the employee is selected.

I apply a strategy method to solicit responses regarding employees' trust in the supervisor. Each employee is asked to indicate how much s/he would be willing to invest (*Invest*), if s/he were to be selected. Each employee is also asked to estimate the percentage of return (*Expected\_Return*) that s/he believes the manager would share with him/her. Employees are clearly informed that the manager is not made aware of their responses to either question. Each employee is told that his/her response to the investment amount will be the real investment if s/he is selected to receive an endowment. The primary dependent variable is the expected percentage of return, which is a proxy for an employee's trust in the supervisor (Garrett et al. 2019).

The employee's compensation in stage 2 is calculated using the following formula:

# (1) If the employee is selected to be endowed with 500 Lira

Employee Compensation = 500 Lira – Investment + Total Return x Percentage of Return

- ❖ Investment ranges from 0 to 500 Lira.
- Percentage of Return ranges from 0% to 100%, and is determined by the manager.

## (2) If the employee is **NOT** selected to be endowed with 500 Lira

Employee Compensation = 0

The supervisor's compensation in stage 2 is calculated using the following formula:

Manager Compensation = Total Return x (1 - Percentage of Return)

- ❖ Total Return = Investment x 3
- Percentage of Return ranges from 0% to 100%, and is determined by the manager.

# IV. RESULTS

# **Descriptive Statistics**

A total of 54 undergraduate students participated in the experiment. The undergraduate students' average age was 19 years old, and 56 percent were female. Risk attitude and general trusting level were captured before participants started the experimental task. T-tests for mean-comparison indicate insignificant differences on GPA, gender composition, risk attitude, and general trusting level between the two conditions (all p-values > 0.10, two-tailed).

# Test of H1

H1 predicts that employees will seek advice more frequently when RPI is present compared to when RPI is absent. As reported in Table 1, Panel A, employees seek advice more often when RPI is present (average in RPI condition = 3.81 times or 63.58 percent of times) compared to when RPI is absent (average in No RPI condition = 2.48 times or 41.36 percent of times). T-test for mean-comparison is significant (t= 1.94, p=0.029, one-tailed), providing support for H1.

Recognizing that firms may be particularly interested as to whether RPI may motivate the bottom performing employees to seek advice as they are the ones who are most in need of advice, I further categorize employees into two groups – *non-bottom performing employees* and *bottom performing employees* – based on their relative performance in stage 1. Employees who are ranked 1 to 6 are *non-bottom performing employees* and employees who are ranked 7 to 9 are considered *bottom performing employees*. I then separately examine the effect of RPI on advice-seeking within these two groups of employees.

Table 1, Panel B shows that the non-bottom performers seek advice more often when RPI is present (average in RPI condition = 5.33 times or 75.93 percent of times) compared to when RPI is absent (average in No RPI condition = 3.50 times or 49.07 percent of times). T-test for mean-comparison indicates that the effect of RPI on advice-seeking is significant for the non-bottom performers (t= 1.93, p=0.031, one-tailed).

Table 1, Panel C presents the result for the bottom performers. Bottom performers seek advice on average 2.33 times (or 38.89 percent of the times) when RPI is present and 1.56 times (or 25.93 percent of the times) when RPI is absent. T-test for mean-comparison shows that the effect of RPI is insignificant for the bottom performers (t= 0.76, p=0.230, one-tailed).

## **Insert Table 1 here**

Thus, although the initial analysis suggests that RPI motivates employees to seek advice from the supervisor, additional analyses reveal that the positive effect of RPI on employee advice-seeking is driven by the non-bottom performing employees. It also reveals that the bottom performing employees are not particularly motivated by RPI to seek advice from the supervisor<sup>6</sup>.

# Test of H2

H2 predicts that the frequency of advice-seeking positively influences the extent to which employees perceive the supervisor to be trustworthy. Table 2 reports the result from an ordinal logistic regression with expected return as the dependent variable and the frequency of advice-

<sup>&</sup>lt;sup>6</sup> When RPI is absent, non-bottom performing employees seek advice more often than the bottom performing employees (on average 3.5 times versus 1.56 times) but the difference is not significant (t=1.39, p=0.18, two-tailed). When RPI is present, non-bottom performing employees seek advice more frequently than the bottom performers (on average 4.56 times versus 2.33 times) and the difference is significant (t=2.30, p=0.03, two-tailed).

seeking as the independent variable. The effect of advice-seeking frequency is significant ( $x^2$ = 1.32, p=0.094, one-tailed).

As tests of H1 reveal that the effect of RPI on advice-seeking is driven by the non-bottom performing employees, I further test the effect of advice-seeking frequency on the non-bottom performing employees' trust in the supervisor. The result suggests that the effect of advice-seeking frequency on the non-bottom performers' trust in the supervisor is significant ( $x^2 = 2.31$ , p=0.011, one-tailed). On the contrary, advice-seeking frequency has no significant impact on the bottom performers' trust in the supervisor ( $x^2 = -0.28$ , p=0.392, one-tailed). Simply put, advice-seeking frequency positively influences the non-bottom performers' trust in the supervisor but does not influence the bottom performers' trust in the supervisor.

## **Insert Table 2 here**

It is worth noting the possibility that individuals who possess a natural inclination to trust others may expect the manager to share a higher percentage of return regardless of the frequency of advice-seeking. To rule out this explanation, I control for the general trusting level that is measured before the experimental task is introduced. Result that is not tabulated shows that advice-seeking frequency continues to positively influence the non-bottom performing employees' trust in the supervisor ( $x^2$ = 2.61, p<0.01, two-tailed) after controlling for their general trusting level<sup>7</sup>.

Because participants' compensation in stage 1 is tied to their individual performance, non-bottom performing employees who perform better and thus accumulate more wealth may be

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<sup>&</sup>lt;sup>7</sup> Participants indicate their responses to the six statements that are used to measure their general trusting level. For example, "Most people are basically honest.", "Most people are trustworthy.", "Most people are basically good and kind."

more willing to *invest* a higher amount in stage 2 and subsequently expect a higher percentage of *return* from the manager. As a result, the higher expected return may be driven by the higher investment amount. To rule out this explanation, I control for the *Investment* amount. Result that is not tabulated shows that advice-seeking frequency continues to positively influence the non-bottom performers' trust in the supervisor ( $x^2 = 2.06$ , p = 0.04, two-tailed) after controlling for the non-bottom performing employees' investment amounts.

To understand whether advice-seeking frequency influences the degree to which non-bottom performing employees display work-related trust to the manager and/or feel more attached to the manager, I analyze the effect of advice-seeking on  $Work\_Trust$  and Attachment respectively. Specifically, I measure  $Work\_Trust$  by asking employees to answer "Would you trust working with this manager again?" using a Likert scale of 1-7 with 1 being not at all and 7 being very much. I measure Attachment by asking employees to use a Likert scale of 1-7, with 1 being not at all and 7 being very much, to indicate their response to the following statement "Please rate the extent to which you felt attached to your manager". Table 3 presents the ordinal logistic regression results that show non-bottom performing employees who seek advice more frequently indeed display more work-related trust to the manager ( $x^2 = 2.93$ , p<0.01, two-tailed) as well as feel more attached to the manager ( $x^2 = 4.11$ , p<0.01, two-tailed).

## **Insert Table 3 here**

# Test of H3

H3 predicts that employee advice-seeking will mediate the relation between RPI and trust in the supervisor. To test the mediation, I first follow Barron and Kenny (1986)'s causal

procedures and rely on multivariate regression analyses. I subsequently test mediation using the Sobel test as well as confidence intervals<sup>8</sup>.

Table 4, Panel A presents the regression results for *all* employees. Panel A, Model 1 tests the *total effect* of RPI on expected return and shows an insignificant result ( $\beta$ =-0.009; p=0.493, one-tailed). This insignificant result is not surprising under an *inconsistent mediation*, meaning the direct effect has an *opposite* sign to the indirect effect. As suggested in Figure 1, although RPI might have a *positive* effect on trust in the supervisor through advice-seeking, the mere presence of RPI might have a *negative* effect on trust in the absence of advice-seeking. As such, Baron and Kenny (1986) point out that the total effect can be insignificant with an inconsistent mediation. Panel A, Model 2 tests the effect of RPI on advice-seeking frequency and Panel A, Model 3 tests the effect of advice-seeking frequency on trust. These results show that although RPI encourages employees to seek advice ( $\beta$ =0.875; p=0.041, one-tailed), advice-seeking frequency has a marginal impact on trust ( $\beta$ =0.744; p=0.094, one-tailed). Panel A, Model 4 further shows that the frequency of advice-seeking has a marginal impact on trust in the supervisor after controlling for the presence of RPI (( $\beta$ =0.853; p=0.08, one-tailed). Overall, these analyses lend a marginal support for the mediation relation.

#### **Insert Table 4 here**

However, tests in H1 and H2 reveal that the effect of RPI on advice-seeking is driven by the *non-bottom performing employees*. It is possible that the mediation relation exists for the

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<sup>&</sup>lt;sup>8</sup> I followed Arnold and Artz (2015)'s paper and use causal method as well as Sobel test (p.70). I supplement my test results with confidence interval tests. I use 90% confidence interval test because the distribution of a^b^is skewed and that an assumption of normality will lead to inaccurate probability statements. I follow Chen and Bargh (1997)'s method and use 90% confidence interval instead.

non-bottom performing employees only instead of all employees. I then test the mediation for the non-bottom performing employees.

Table 4, Panel B presents my results. Specifically, Panel B, Model 1 tests the total effect of RPI on expected return and shows an insignificant result ( $\beta$ =0.23; p=0.351, one-tailed). The insignificant total effect is expected with an inconsistent mediation where direct and indirect effect has an opposite sign. Panel B, Model 2 tests the effect of RPI on advice-seeking frequency for the non-bottom performing employees and suggests that they are motivated by RPI to seek advice (β=1.102; p=0.042, one-tailed). Panel B, Model 3 tests the effect of advice-seeking frequency on trust and shows that advice-seeking frequency positively influences the non-bottom performing employees' trust in the supervisor ( $\beta$ =1.663; p=0.011, one-tailed). Finally, Panel B, Model 4 reveals that the frequency of advice-seeking significantly affects trust even after controlling for the presence of RPI ( $\beta$ =1.949; p=0.009, one-tailed). Taken together, these results fulfill the conditions described by Baron and Kenny (1986) for the mediation. As suggested by Baron and Kenny (1986), I additionally test whether the indirect effect from RPI over adviceseeking to trust in the supervisor is significantly different from zero by performing a Sobel test (Goodman 1960). I find evidence for a significant effect (p<0.10). I further test the indirect effect using bootstrapping with 1,000 bootstrapped samples. Figure 6 presents the results. Bootstrapping analysis indicates that the 90% confidence interval for the indirect effect of RPI on trust through advice-seeking is entirely above zero (lower bound = 0.264; upper bound = 11.446). The result is similar if I test the indirect effect using the Monte Carlo method (lower bound = 0.317; upper bound = 10.390). To sum up, my analyses suggest a mediation relation between RPI and trust in the supervisor for the non-bottom performing employees.

# **Insert Figure 6 here**

## V. CONCLUSION

In this paper, I study the effect of RPI on employee advice-seeking as well as the impact of advice-seeking on trust in the supervisor. I find that while the bottom performing employees are not particularly motivated by RPI to seek advice, the non-bottom performing employees seek advice more frequently when RPI is present compared to when RPI is absent. Additionally, the frequency of advice-seeking positively influences the extent to which the non-bottom performing employees display trust in their supervisor. Mediation analyses suggest that advice-seeking mediates the relation between RPI and trust in the supervisor for the non-bottom performing employees.

My study contributes to accounting theory and practice in several ways. First, this study fills the gap of current RPI literature by investigating whether and how the presence of RPI also influences the interaction between employees and their supervisor. My study also adds to the stream of literature that examines how a control system may influence trust within organizations. This study gives an implication to practice by suggesting that firms that provide RPI may consider offering additional incentives (e.g., recognition) or assistance to encourage the bottom performing employees to seek advice as they are less motivated by RPI to do so but are most in need of advice.

My study also suggests several opportunities for future research. First, employees can learn by seeking advice or by trial-and-error and it may be beneficial to investigate whether employee performance varies given different learning strategies and whether the effectiveness of learning strategies depend on task characteristics. Second, my results reveal that RPI did not have a significant effect on the bottom performing employees' advice-seeking behavior. Future research is necessary to identify factors which motivate bottom performers to seek advice and/or factors

which prevent them from seeking advice. Third, in some situations, employees may observe their peers' advice-seeking behavior, which further influences their own decisions in seeking advice. Future research may benefit from investigating how such peer effect influences employee advice-seeking. Finally, future studies may benefit from an investigation evaluating how the perceived cost of providing or seeking advice influences advice-seeking. According to prior literature, when people seek advice they consider not only personal costs such as time and effort, but also the potential advisor's cost of giving advice. Examining how the cost of seeking and giving advice affects whether or when an employee seeks advice from the advisor may be a worthwhile pursuit considering the established value and importance of advice seeking within an organization.

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Figure 1

Predictions

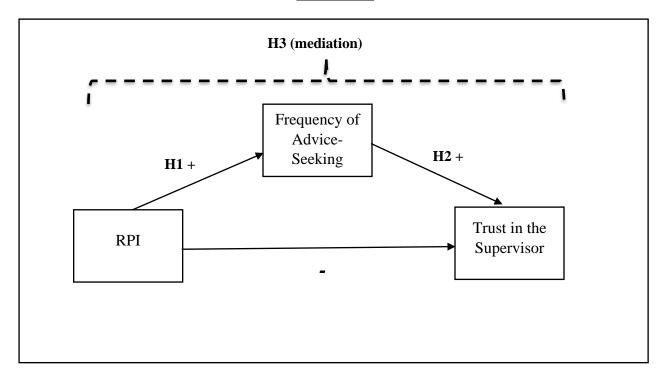


Figure 2

Experimental Timeline

	Stag	e 1	Stage 2			
Role Assignment	Sprinkle (2000) Task		Investment Game	PEQ	Selected	Pay and
Assignment	Practice	Main Session	Employees and manager make their respective decisions.		Employee Announced	Leave

Figure 3
Lira Earnings Sheet

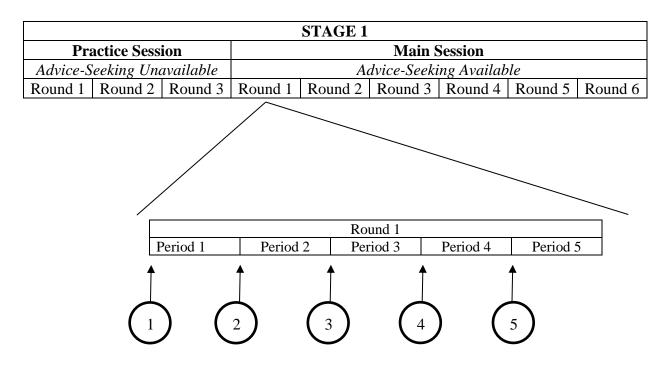
<u>Economic</u>	<u>Production Quantity</u>																			
<u>Condition</u>	1	2	3	4	<u>5</u>	6	7	8	9	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>	<u>20</u>
1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	5	5	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	5	5	10	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	5	5	10	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	5	5	10	20	20	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	5	5	10	20	20	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0
8	5	5	10	20	20	30	30	30	0	0	0	0	0	0	0	0	0	0	0	0
9	5	5	10	20	20	30	30	30	45	0	0	0	0	0	0	0	0	0	0	0
10	5	5	10	20	20	30	30	30	45	45	0	0	0	0	0	0	0	0	0	0
11	5	5	10	20	20	30	30	30	45	45	60	0	0	0	0	0	0	0	0	0
12	5	5	10	20	20	30	30	30	45	45	60	60	0	0	0	0	0	0	0	0
13	5	5	10	20	20	30	30	30	45	45	60	60	60	0	0	0	0	0	0	0
14	5	5	10	20	20	30	30	30	45	45	60	60	60	80	0	0	0	0	0	0
15	5	5	10	20	20	30	30	30	45	45	60	60	60	80	80	0	0	0	0	0
16	5	5	10	20	20	30	30	30	45	45	60	60	60	80	80	95	0	0	0	0
17	5	5	10	20	20	30	30	30	45	45	60	60	60	80	80	95	95	0	0	0
18	5	5	10	20	20	30	30	30	45	45	60	60	60	80	80	95	95	95	0	0
19	5	5	10	20	20	30	30	30	45	45	60	60	60	80	80	95	95	95	100	0
20	5	5	10	20	20	30	30	30	45	45	60	60	60	80	80	95	95	95	100	100

Figure 4

<u>Example of Ranking Information</u>

PERFORMANCE RANK					
Participant	Rank				
Participant_ID 1	1				
Participant_ID 2	7				
Participant_ID 3	2				
Participant_ID 4	3				
Participant_ID 5	8				
Participant_ID 6	9				
Participant_ID 7	6				
Participant_ID 8	5				
Participant_ID 9	4				

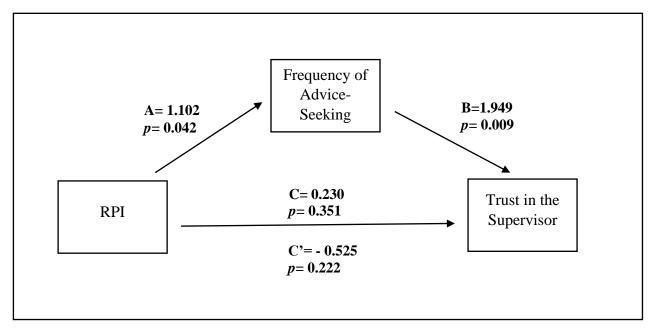
Figure 5
When Can Employees Seek Advice?



Any employee has five opportunities to seek advice within a round if s/he has never sought advice in any previous periods within that round.

Figure 6

Mediation Analysis for the Non-bottom Performers



Note: All p-values are one-tailed. Process uses ordinal logistic regression when assessing links with an ordinal dependent variable.

Lower Bound

Upper Bound

# **Confidence interval for the indirect effect:**

# (a) Bootstrapping

Indirect Effect	0.264	11.446
(b) Monte Carlo Method		
	Lower Bound	Upper Bound
Indirect Effect	0.317	10.390

<sup>\*</sup> Presented confidence interval is based on a 90% confidence level.

Table 1
Test of H1

Panel A: Frequency of Advice	e-Seeking - Mean (SD)		
	NO RPI	<u>RPI</u>	<u>T-test</u>
Frequency of Advice-	2.48	3.81	1.94
Seeking (times)	(0.48)	(0.49)	p = 0.029
	N=27	N=27	
Frequency of Advice-	41.36%	63.58%	1.94
Seeking (percentage)	(0.41)	(0.43)	p = 0.029
	N=27	N=27	-
Panel B: Non-Bottom Perform	ners		
	NO RPI	<u>RPI</u>	<u>T-test</u>
Frequency of Advice-	3.50	5.33	1.93
Seeking (times)	(0.52)	(0.11)	p = 0.031
	N=18	N=18	
Frequency of Advice-	49.07%	75.93%	1.93
Seeking (percentage)	(0.46)	(0.6)	p = 0.031
	N=18	N=18	
<b>Panel C: Bottom Performers</b>			
	NO RPI	<u>RPI</u>	<u>T-test</u>
Frequency of Advice-	1.56	2.33	0.76
Seeking (times)	(0.55)	(0.87)	p = 0.230
	N=9	N=9	
Frequency of Advice-	25.93%	38.89%	0.76
Seeking (percentage)	(0.28)	(0.43)	p = 0.230
	N=9	N=9	•

- 1. T-test for mean comparison is appropriate as it compares the *mean* of advice-seeking frequency.
- 2. Frequency of Advice-Seeking (times) indicate how many times an employee has sought advice in stage 1 and the number ranges from 0 to 6.
- 3. I calculate Frequency of Advice-Seeking (percentage) by dividing Frequency of Advice-Seeking (times) by 6.
- 4. All p-values are one-tailed due to directional prediction.

Table 2 Test of H2

Panel A: The Effect of Advice-Seeking	Frequency on T	Trust Proxied by	<b>Expected Return</b>
---------------------------------------	----------------	------------------	------------------------

	Wald x <sup>2</sup>	<u>p-value</u>
All Employees	1.32	0.094
Non-Bottom Performers	2.31	0.011
<b>Bottom Performers</b>	-0.28	0.392

<sup>1.</sup> All p-values are one-tailed due to directional prediction.

<sup>2.</sup> Expected Return is an ordinal dependent variable that ranges from 0 percent to 100 percent with 10 percent as an interval.

Table 3
Non-Bottom Performers

	- 10 0110 00					
Panel A: The Effect of Advice-Seeking Frequency on Work Trust						
	Wald $x^2$	<u>p-value</u>				
Non-Bottom Performers	2.93	<0.01				
Panel B: The Effect of Advice-Seeking Frequency on Attachment						
	Wald $x^2$	<u>p-value</u>				
Non-Bottom Performers	4.11	<0.01				

- 1. All p-values are two-tailed.
- 2. *Work Trust* Participants are asked "Would you trust working with this manager again?" on a seven-point Likert scale anchored at 1 = "Not at all" and 7 = "Very much".
- 3. *Attachment* Participants are asked to indicate the extent to which they feel attached to the manager on a seven-point Likert scale anchored at 1 = "Not at all" and 7 = "Very much".

Table 4 Test of H3

Panel A: All Parti	cipants			
Model Dependent Variable	<u>1.</u> Expected Return	<u><b>2.</b></u> Frequency of Advice-Seeking	3. Expected Return	4. Expected Return
RPI	-0.009 (0.493)	0.875* (0.041)		-0.267 (0.305)
Frequency of Advice-Seeking			0.744 (0.094)	0.853 (0.080)
Observation	54	54	54	54

# **Panel B: Non-Bottom Performers**

<b>Model</b> Dependent Variable	<u>1.</u> Expected Return	<u>2.</u> Frequency of Advice-Seeking	3. Expected Return	4. Expected Return
RPI	0.230 (0.351)	1.102* (0.042)		-0.525 (0.222)
Frequency of Advice-Seeking			1.663* (0.011)	1.949** (0.009)
Observation	36	36	36	36

To test ordinal dependent variables, I use ordinal logistic regression.
 p-values are shown in the parentheses and are one-tailed for variables with a directional prediction.