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ANALYSIS OF THE INFLUENCE OF RELATIVE PERFORMANCE INFORMATION AND GROUP IDENTITY ON RULE-BREAKING IN WORK ENVIRONMENTS

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Abstract

This study examines the influence of Relative Performance Information (RPI) and group identity on performance-improving rule violations in organizational contexts. Through a comprehensive literature review of current research, this study reveals that the impact of RPI on rule violations is highly dependent on the level of group identity existing within the organization. In groups with strong identity, RPI tends to increase rule violations as individuals strive to impress colleagues through achieving high performance rankings, even if this requires violating established rules. Conversely, in groups with weak identity, RPI shows minimal impact on rule violations as individuals rely more on personal moral standards and economic considerations in decision-making. This research identifies four key psychological mechanisms underlying this relationship: impression management, social comparison, self-concept maintenance, and moral disengagement. These findings highlight the importance of considering contextual factors when designing organizational performance information systems. Practical implications include the need for caution in implementing RPI in high group identity environments, developing group identity management strategies, and implementing effective control mechanisms to prevent unwanted rule violations while maintaining the motivational benefits of RPI.

Keywords: Relative performance information, Group identity, Rule violations, Impression management, Social comparison

INTRODUCTION

In the increasingly competitive modern work environment, companies consistently implement various strategies to enhance productivity and motivate employees. One commonly used strategy is the provision of Relative Performance Information (RPI), which provides employee performance rankings compared to their peers. Such systems aim to leverage the natural human tendency to compare themselves with others and be motivated by social competition. Although RPI has been proven to enhance motivation and performance in many contexts, this strategy can also have unintended consequences, including encouraging rule violations by employees (Ewelt-Knauer, Knauer, & Sharp, 2020; Hannan, McPhee, Newman, & Tafkov, 2013a).

Performance-improving rule-breaking is defined as violations that do not harm company resources (such as theft) or other employees' performance (such as sabotage), but instead improve overall company performance (Ewelt-Knauer, Schwering, & Winkelmann, 2022). Common examples of such violations include employees exceeding established working hour limits to increase productivity, ignoring certain safety procedures to complete tasks faster, or bypassing required approval stages to accelerate processes. Although this behavior may benefit companies in the short term, it can cause serious problems in the long term, such as employee fatigue, decreased work quality, workplace accidents, or even financial and reputational losses when such behavior is

revealed (Kang et al., 2012; Sparks, Cooper, Fried, & Shirom, 1997; Ewelt-Knauer, Knauer, & Lachmann, 2015).

The phenomenon of performance-improving rule-breaking becomes increasingly relevant in the context of the competitive global economy, where organizations continuously seek ways to improve efficiency and productivity. However, understanding the dynamics underlying this phenomenon is highly complex as it involves interactions between economic incentives, psychological factors, and social context. One contextual factor that can influence the impact of RPI on rule-breaking is group identity, which is the extent to which individuals identify with and feel psychologically close to their group (Tajfel & Turner, 1986; Chen & Li, 2009). Recent research shows that group identity can moderate the relationship between RPI and rule-breaking in complex and interesting ways (Ewelt-Knauer, Schwering, & Winkelmann, 2022).

Despite the importance of this topic, there remains a gap in our understanding of how RPI interacts with group identity to influence rule-breaking in the workplace. Understanding these dynamics becomes crucial for organizations to design effective performance evaluation systems and incentive structures, as well as develop appropriate control mechanisms to prevent unwanted rule violations.

This paper aims to analyze the relationship between relative performance information, group identity, and rule-breaking based on a comprehensive review of current literature. Specifically, this paper will:

1. Explore the concept of relative performance information and its effects on employee motivation and behavior
2. Explain performance-improving rule-breaking and its consequences for organizations
3. Analyze the role of group identity in moderating the impact of RPI on rule-breaking
4. Identify psychological mechanisms underlying this relationship, including impression management, social comparison, and self-concept maintenance
5. Discuss theoretical and practical implications for researchers and practitioners in management accounting, organizational behavior, and business ethics

A deeper understanding of this relationship will help organizations design effective performance information systems while minimizing unwanted negative consequences. This will also contribute to the growing literature on factors influencing ethical behavior and rule-breaking in the workplace.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

2.1 Relative Performance Information (RPI)

Relative performance information (RPI) is defined as an accounting tool that establishes and discloses rankings based on comparisons of individual performance within a group (Frederickson, 1992). RPI provides employees with information about how their performance compares to their peers, enabling social comparisons and potentially motivating performance improvements. In practice, RPI can be implemented in various forms, such as publicly displayed performance rankings, comparisons of employee sales with average daily sales, or leaderboards showing relative achievements of team members (Hannan, McPhee, Newman, & Tafkov, 2013a; Tafkov, 2013; Kramer, Maas, & van Rinsum, 2016).

The use of RPI in organizations is based on the premise that information about relative performance can motivate employees to exert greater effort by leveraging humans' natural tendency to compare themselves with others and outperform comparison standards (Festinger, 1954). Social comparison theory states that individuals have a drive to evaluate their abilities and opinions, and when objective measures are unavailable, they do so through comparisons with others (Festinger, 1954). RPI facilitates this social comparison process by providing clear benchmarks for self-evaluation.

Numerous studies have demonstrated positive effects of RPI on motivation and performance. For example, Azmat and Iriberri (2010) conducted a natural experiment with high school students and found that when students were given information about their position relative to the class average, their performance improved significantly by 5%. This research highlights the power of RPI even in contexts where no financial incentives are associated with higher rankings. Similarly, Hannan, Krishnan, and Newman (2008) found that RPI enhanced performance in both tournament and individual compensation plans, although the effect was stronger in tournament contexts.

In multi-task environments, Hannan et al. (2013a) showed that RPI can increase overall effort allocation but can also lead to suboptimal effort allocation if only some tasks are included in the performance metrics. Extending this research, Hannan, McPhee, Newman, Tafkov, and Kachelmeier (2019) found that the informativeness of RPI (how well RPI reflects actual performance) affects the extent to which employees allocate their effort based on this information.

However, RPI can also have negative side effects. Berger, Fiolleau, and MacTavish (2019) showed that RPI can reduce knowledge sharing among employees, particularly when combined with individual performance incentives. This occurs because employees are reluctant to share knowledge that could help colleagues improve their rankings relative to the employee themselves. Hartmann and Schreck (2018) revealed more destructive effects of RPI, showing that in some contexts, RPI can encourage sabotage behavior, where employees actively undermine colleagues' performance to improve their own relative position.

More relevant to the focus of this paper, Ewelt-Knauer, Knauer, and Sharp (2020) found that RPI can increase rule violations as a reaction to rule violations by other employees. They showed that when employees know their colleagues are violating rules to improve performance (and thus their rankings), they are more likely to engage in similar behavior to maintain their relative position. This finding highlights the potential "contagion effect" of rule violations in RPI contexts.

Both positive and negative effects of RPI can be traced back to individuals' efforts to realize psychological rewards that positively update their self-concept (Beach & Tesser, 1995; Festinger, 1954; Tafkov, 2013; Tesser, 1988). Thus, the impact of RPI on employee behavior heavily depends on the social and psychological context in which the information is provided, including the strength of group identity.

2.2 Performance-Improving Rule Breaking

Performance-improving rule breaking refers to a specific type of violation that does not harm company resources (such as theft) or other employees' performance (such as sabotage), but rather, at least in the short term, improves overall company performance (Ewelt-Knauer, Schwering, & Winkelmann, 2022). This type of violation differs from other forms of fraud or deviant workplace behavior because its primary motivation is to improve performance, not to gain personal advantage at the organization's expense.

Common examples of performance-improving rule breaking include:

- Exceeding prescribed working hour limits to increase productivity
- Bypassing security steps or established protocols to complete tasks faster
- Ignoring required approvals or authority limitations to complete projects on time
- Simplifying quality control procedures to increase throughput
- Modifying standard work methods to achieve faster results

While these behaviors may appear beneficial to the organization in the short term, they can create various negative consequences in the long term. Ewelt-Knauer, Knauer, and Lachmann (2015) showed that rule violations, even those aimed at improving performance, can cause financial and reputational losses when such behavior is publicly disclosed. Hauser and Hogenacker (2014) also noted that such practices can invite legal and regulatory sanctions, particularly in international operations where companies may be subject to various compliance standards.

Research on excessive working hours provides a clear example of how performance-improving rule breaking can create negative consequences. Kang et al. (2012) conducted a meta-analysis on long working hours and cardiovascular disease, finding a significant relationship between working

hours exceeding recommended limits and increased cardiovascular disease risk. Similarly, Sparks, Cooper, Fried, and Shirom (1997) showed that long working hours are associated with various health problems, including stress, fatigue, and sleep disorders. These poor health conditions, in turn, can lead to decreased productivity, increased errors, and even workplace accidents.

A tragic example of the consequences of performance-improving rule breaking is the BP Texas City oil refinery explosion in 2005, which resulted in 15 deaths and more than 170 injuries (U.S. Chemical Safety and Hazard Investigation Board, 2007). The investigation found that one of the main contributing factors was sleep-deprived refinery operators working several consecutive 12-hour shifts, violating safety guidelines. The fatigued operators made poor decisions that ultimately led to the disaster. This example illustrates how rule violations intended to improve productivity (allowing long shifts) can lead to extremely detrimental consequences.

Despite these risks, performance-improving rule breaking remains prevalent in many organizations. Pinto, Leana, and Pil (2008) proposed that this is partly due to performance pressure at all organizational levels. When employees feel that achieving performance targets is crucial and they have discretion in how they perform their work, they may be tempted to break rules for efficiency and productivity. Ewelt-Knauer, Schwering, and Winkelmann (2022) also noted that employees are more likely to engage in rule breaking when they believe their actions will benefit the organization, a belief that can be reinforced by signals sent by senior management through their "tone at the top."

Understanding the factors that drive performance-improving rule breaking is crucial. The literature identifies various drivers, including economic incentives, organizational culture, leadership, and, as the focus of this paper, relative performance information and group identity. Understanding how these factors interact allows organizations to design work environments that promote high performance while preventing behaviors that may be detrimental in the long term.

2.3 Group Identity

Group identity is a psychological concept that refers to the extent to which an individual identifies with, feels psychologically close to, and considers themselves a member of a particular social group (Tajfel & Turner, 1986). Group identity is rooted in social identity theory, which states that individuals derive part of their self-concept from their membership in social groups and the value and emotional significance they associate with that membership (Tajfel, 1978).

In organizational contexts, group identity can involve identification with various groups, such as work teams, departments, professions, or even the organization as a whole. Chen and Li (2009, p. 431) define group identity as "a person's sense of self derived from perceived membership in a social group." When employees have strong group identity, they tend to see themselves as representatives of the group, adopt the group's goals and values as their own, and align their behavior with what they consider to be the group's best interests (Ashforth & Mael, 1989).

Group identity varies greatly in practice and can be influenced by various factors (Carmeli, Gilat, & Waldman, 2007; Chen & Li, 2009; Kelly & Presslee, 2017; Rousseau, 1998). Several factors that contribute to the development of strong group identity include:

- Group homogeneity: Groups consisting of individuals with similar characteristics, backgrounds, or values tend to develop stronger group identity (Tsui, Egan, & O'Reilly, 1992).
- Frequent interaction: More frequent and intense interactions among group members tend to enhance group identity (Homans, 1950).
- Shared goals and fate: Group members working toward common goals and feeling that their success is interdependent tend to develop stronger group identity (Sherif, 1966).
- Clear group boundaries: When boundaries between group members and non-members are clear, group identity tends to be stronger (Tajfel & Turner, 1986).
- Group prestige: Group members are more likely to identify with groups that are respected or considered to have high status (Ellemers, 1993).

Companies can actively attempt to manage group identity through various organizational decisions. As noted by Barlett (2016), companies can enhance group identity by forming

homogeneous employee groups (e.g., with similar age or professional development levels), encouraging close collaboration and frequent interaction, or organizing team-building events. Conversely, companies can also deliberately form groups with lower identity, consisting of more heterogeneous employees who collaborate loosely, are geographically dispersed, and interact infrequently (Wood, Graham, Lehdonvirta, & Hjorth, 2019).

Research has shown that group identity can influence various employee behaviors. For example, Charness, Rigotti, and Rustichini (2007) found that individuals with higher group identity are more likely to act in their group's interests, even when it involves personal sacrifice. Chen and Li (2009) showed that group identity increases pro-social behavior toward group members, including altruism and preferences for distributive fairness. Akerlof and Kranton (2005) argued that group identity can function as a powerful non-monetary incentive, influencing employee motivation and organizational performance.

In management accounting contexts, group identity has been shown to influence the effectiveness of various management control practices. Rowe (2004) found that team structure and group identity interact to affect performance in cross-functional teams. Towry (2003) showed that team-based control systems are more effective when group identity is strong. Similarly, Coletti, Sedatole, and Towry (2005) found that control systems can enhance trust and cooperation in collaborative environments, an effect that may be mediated by group identity.

Although group identity is often viewed positively, Pinto et al. (2008) noted that strong group identity can also encourage unethical behavior if such behavior is perceived as benefiting the group. Chen, Chen, and Sheldon (2016) found that strong organizational identification can lead employees to engage in unethical pro-organizational behavior, such as lying to customers to protect the organization. These findings suggest that group identity can be a double-edged sword, depending on the context and norms prevailing within the group.

In relation to RPI and rule violations, Ewelt-Knauer, Schwering, and Winkelmann (2022) suggested that the level of group identity can moderate how employees respond to relative performance information. As will be discussed in the next section, the interaction between group identity and RPI has important implications for understanding when and why employees might engage in performance-improving rule breaking.

2.4 Psychological Mechanisms Underlying Rule Breaking

To understand how RPI and group identity influence rule breaking, it is important to identify the psychological mechanisms underlying such behavior. Understanding the cognitive and emotional processes that guide employee decision-making regarding whether to comply with or violate rules provides valuable insights into how contextual variables such as RPI and group identity interact to influence behavior.

2.4.1 Self-Concept Maintenance and Psychological Costs

Generally, individuals want to maintain a positive self-concept and have a preference for seeing themselves as ethical and moral people (Hales, 1985; Mazar, Amir, & Ariely, 2008). Violating rules, norms, or ethical standards can create cognitive dissonance and feelings such as guilt or shame, which are psychological costs for individuals. Therefore, individuals naturally have a preference for complying with rules and behaving ethically to maintain a positive self-concept.

However, as demonstrated by Mazar et al. (2008), individuals can engage in a certain level of dishonesty while still maintaining a positive self-concept through what they call the "fudge factor." In this zone, unethical behavior is not fully acknowledged or incorporated into one's identity, allowing individuals to benefit from unethical behavior while still maintaining a positive self-concept. Pickerd, Summers, and Wood (2015) found that this fudge factor can be influenced by various contextual factors, including others' behavior and prevailing norms.

2.4.2 Moral Disengagement

Bandura (1999, 2002) proposed that individuals can also engage in what is called "moral disengagement" to reduce the psychological costs of unethical behavior. Moral disengagement involves various cognitive mechanisms that allow individuals to restructure rule-violating behavior

so it is no longer viewed as unethical or immoral, reduce personal responsibility for such behavior, or minimize the harmful consequences of such behavior.

In the context of performance-improving rule breaking, employees might use moral disengagement mechanisms such as:

- Moral justification (e.g., "I'm doing this for the good of the company")
- Advantageous comparison (e.g., "What I'm doing isn't as bad as X")
- Euphemistic language (e.g., calling rule breaking "process optimization")
- Diffusion of responsibility (e.g., "Everyone is doing it")
- Minimization of consequences (e.g., "No one is really being harmed")

Ewelt-Knauer, Knauer, and Lachmann (2015) noted that moral disengagement is often used to justify performance-improving rule breaking, particularly when employees can claim that their actions benefit the company or that such actions are the norm in their work environment.

2.4.3 Social Comparison and Self-Evaluation Maintenance Model

Social comparison theory (Festinger, 1954) states that individuals have a drive to evaluate their abilities and opinions, and when objective measures are unavailable, they do so through comparisons with others. These social comparisons form the basis for RPI's effects on motivation and behavior. Tesser (1988) developed the self-evaluation maintenance model, which highlights that the importance of social comparison is influenced by psychological closeness to group members. This model states that performance information only drives the desire to compare oneself socially with others when the comparison group is considered important, which is the case when an individual identifies more highly with group members (Beach & Tesser, 1995; Tafkov, 2013; Tesser, 1988).

When individuals strongly identify with a group (high group identity), poor performance compared to other group members can threaten self-evaluation. Consequently, individuals may be motivated to improve their performance, even if it means breaking rules. Conversely, when group identity is low, comparisons with group members do not have the same impact on self-evaluation, thus reducing incentives to engage in performance-improving rule breaking. Tesser, Millar, and Moore (1988) further explored the affective consequences of social comparison processes, showing that individuals can experience positive feelings when they outperform people close to them in relevant domains, but can also experience negative feelings if they are outperformed. This dynamic could be particularly relevant in RPI contexts, where information about relative performance rankings can directly affect self-evaluation and, consequently, motivation to engage in rule breaking.

2.4.4 Impression Management and Self-Presentation

Individuals naturally care about how they are perceived by others and often engage in behaviors designed to control or influence those perceptions. Bolino (1999) and Bolino and Turnley (1999) explained that individuals use various impression management strategies to influence how they are viewed by others. Jones and Pittman (1982) identified five main impression management strategies used in organizational settings:

1. Ingratiation - trying to be liked by praising others, doing favors, or showing similarity
2. Self-promotion - emphasizing abilities and achievements to appear competent
3. Exemplification - exaggerating dedication or morality to appear moral or dedicated
4. Intimidation - trying to appear dangerous or threatening
5. Supplication - displaying weakness or dependence to gain help

In the context of RPI and rule breaking, the most relevant impression management strategies are likely ingratiation and self-promotion. As explained by Bolino, Long, and Turnley (2016), RPI can influence which impression management strategies are used by employees. When RPI is absent, employees may be more likely to use ingratiation, including complying with rules to make a good impression. When RPI is present, employees may shift to self-promotion, seeking to impress colleagues with high performance achievements, even if it requires rule breaking.

Hannan, Rankin, and Towry (2006) showed that impression concerns are an important factor in managerial reporting honesty, which can be analogized to rule compliance. They found that

managers are more likely to report honestly when their reports are verified by others, underscoring the role of oversight in shaping behavior motivated by impression management.

RESEARCH METHODS

This research employs a qualitative literature review method to analyze the relationship between relative performance information, group identity, and rule-breaking in work environments. The literature review method was chosen because it allows researchers to collect, analyze, and synthesize various findings from previous research relevant to the research topic, thereby providing comprehensive and in-depth understanding of the phenomenon under study. The data collection process was conducted through systematic literature searches from various trusted academic sources, including international scientific journals, textbooks, and research publications related to relative performance information, group identity, organizational behavior, and business ethics. Literature sources used include academic databases such as Google Scholar, JSTOR, ScienceDirect, and other accounting and management journal databases. The literature selection criteria used were publications within the last 10-15 years to ensure relevance and currency of information, focusing on research discussing the relationship between performance information systems and employee behavior, particularly those related to rule violations and psychological factors influencing them.

Data analysis was conducted through a descriptive-analytical approach by identifying, categorizing, and synthesizing findings from various collected literature sources. The analysis process began with in-depth reading of each literature source to understand key concepts, methodologies used, and resulting findings. Subsequently, categorization was performed based on the research's main themes: relative performance information, group identity, rule-breaking, and psychological mechanisms underlying these relationships. Each category was then analyzed in depth to identify patterns, consistencies, and contradictions in existing findings. The synthesis process was conducted by integrating various perspectives and findings from different literature to build holistic understanding of the phenomenon under study. This approach enabled researchers to identify gaps in existing knowledge, develop comprehensive conceptual frameworks, and formulate theoretical and practical implications based on the literature analysis conducted. Analysis validity was maintained through source triangulation, using various types of publications and different perspectives to ensure accuracy and completeness of the analysis performed.

RESULTS AND DISCUSSION

Integration of Psychological Mechanisms

These psychological mechanisms do not operate separately but interact with each other to influence decisions about whether to comply with or break rules. Ewelt-Knauer, Schwering, and Winkelmann (2022) integrate these mechanisms to explain how RPI and group identity influence performance-improving rule-breaking. Specifically, they argue that the psychological costs and rewards of rule-breaking are influenced by complex interactions between:

- Self-concept and the desire to maintain positive views about oneself
- Social comparison and the importance of relative evaluation
- Impression management strategies and the desire to impress others
- Moral disengagement and the ability to justify rule violations

How these factors interact depends heavily on social context, particularly the level of group identity and the presence or absence of RPI. Understanding these interactions is crucial for identifying when and why employees might engage in performance-improving rule-breaking.

3.1 Interaction between RPI and Group Identity

Understanding the psychological mechanisms underlying rule-breaking provides a foundation for analyzing how RPI and group identity interact to influence employee behavior. This section explores this interaction in detail, based on empirical and theoretical findings from existing literature.

3.1.1 Impact of RPI on Rule-Breaking in Low Group Identity Context

In low group identity contexts, individuals have weak psychological bonds with their group members and do not derive a significant portion of their self-concept from group membership (Ashforth & Mael, 1989; Pleban & Tesser, 1981). Consequently, evaluations and opinions from group members have relatively little influence on their decision-making. Instead, such individuals are more likely to focus on personal moral standards and economic incentives when deciding whether to comply with or break rules. Ewelt-Knauer, Schwering, and Winkelmann (2022) found that when RPI is not provided in low group identity contexts, employees primarily consider economic incentives from rule-breaking against psychological costs arising from conflicting with their own moral standards. Since there is no significant social pressure from the group, their decisions are more based on personal cost-benefit calculations. If the economic benefits of rule-breaking (such as higher compensation due to better performance) exceed psychological costs (such as guilt or shame), rule-breaking is likely to occur to some extent.

When RPI is provided in low group identity contexts, differences in rule-breaking behavior are relatively small compared to situations without RPI. Although RPI can increase competition and provide additional incentives to perform better (Hannan et al., 2013a; Kramer et al., 2016), its effect on rule-breaking is limited when group identity is low for several reasons. First, although RPI can increase feelings of similarity and psychological closeness, in low group identity contexts, the comparison group and the comparison itself are still not considered very important by employees (Tesser et al., 1988; Tesser & Smith, 1980). Consistent with Tesser's (1988) self-evaluation maintenance model, employees do not develop strong competitive feelings and are not motivated to compare themselves with other colleagues when psychological closeness is low. Second, employees with low group identity do not gain strong positive effects on their personal self-concept when they perform better than irrelevant comparison group members (Bandura, 1999; Bolino & Turnley, 1999). In other words, succeeding in comparisons with individuals who are not considered psychologically important does not provide significant psychological rewards, thus reducing incentives to engage in rule-breaking merely to improve rankings. Third, in low group identity contexts, employees do not care much about the impressions they make on other group members (Bolino, 1999; Chen & Li, 2009). Without a strong desire to impress colleagues, RPI does not create significant changes in impression management strategies (Bolino et al., 2016). Employees are likely to maintain focus on their own moral standards and economic incentives, regardless of ranking information provided by RPI.

The experimental study by Ewelt-Knauer, Schwering, and Winkelmann (2022) confirms this hypothesis. They found that in low group identity contexts, there was no significant difference in rule-breaking between conditions with and without RPI. They also found that participants in low group identity conditions reported being more focused on economic incentives than participants in high group identity conditions, confirming that in low group identity, economic considerations play a more prominent role in decision-making. These findings indicate that RPI has minimal impact on rule-breaking behavior when group identity is low, with employees largely maintaining the same decision strategies regardless of whether they receive performance ranking information or not.

3.1.2 Impact of RPI on Rule-Breaking in High Group Identity Context

In high group identity contexts, individuals feel psychologically close to their colleagues and derive a significant portion of their self-concept from group membership (Ashforth & Mael, 1989; Chen & Li, 2009). They care about other group members' opinions and anticipate how their behavior will be viewed and judged by their peers. Consequently, personal moral standards remain important, but social evaluation and impressions made on other group members also play significant roles in decisions to break rules (Bandura, 2002; Bolino, 1999; De Cremer & Van Lange, 2001). Ewelt-Knauer, Schwering, and Winkelmann (2022) found that when RPI is not provided in high group identity

contexts, employees tend to make good impressions on colleagues by behaving ethically. Without clear performance metrics to compare themselves with others, employees turn to alternative impression management strategies, particularly ingratiation, which aims to make them appear pleasant and likeable (Bolino et al., 2016; Hannan et al., 2006). Behaving ethically and complying with rules is an effective way to achieve this goal, as such behavior is typically valued and contributes to making good impressions on colleagues.

Furthermore, in settings where employees are partially aware of each other's rule violations, rule-breaking can be accompanied by social sanctions from fellow group members, resulting in psychological costs for employees (Bolino et al., 2016; Tepper, 2010). These psychological costs are higher in high group identity contexts because employees care more about how they are judged by colleagues with whom they strongly identify. Consequently, when RPI is not provided in high group identity contexts, rule-breaking tends to occur at low levels. Employees strive to make good impressions by complying with rules, and the psychological costs of rule-breaking are relatively high due to potential social sanctions from colleagues considered important. However, when RPI is provided in high group identity contexts, the dynamics change drastically. RPI introduces clear and public performance metrics that allow direct comparisons among group members. According to Charness, Masclet, and Villeval (2014), high group identity can cause "friendly" competition within groups when individuals compare their performance with people they consider psychologically close and important.

In this situation, impression management strategies change significantly. Instead of ingratiation through rule compliance, employees shift to self-promotion, striving to impress their colleagues with high performance achieved through higher rankings (Bolino et al., 2016; Tesser & Campbell, 1982). High performance rankings provide strong psychological rewards because they demonstrate competence and superiority compared to individuals considered important, which positively enhances self-evaluation.

Furthermore, when individuals outperform others in rankings, they gain strong positive effects on their personal self-concept (Tesser, 1988; Tesser & Campbell, 1982). These psychological rewards can reduce or offset the psychological costs of rule-breaking, allowing individuals to break rules while still maintaining positive self-concepts. The experimental study by Ewelt-Knauer, Schwering, and Winkelmann (2022) confirms this hypothesis. They found that in high group identity contexts, rule-breaking was significantly higher when RPI was provided compared to when it was not provided. They also found that in RPI conditions with high group identity, participants were more likely to view their decision situations as driven by economic rather than ethical considerations, and more likely to view rule compliance as disadvantageous, indicating changes in cognitive frameworks supporting rule-breaking. These findings indicate that RPI has a strong impact on rule-breaking behavior when group identity is high, changing impression management strategies from rule compliance (ingratiation) to achieving high rankings through rule-breaking (self-promotion).

3.1.3 Development of Rule-Breaking Over Time

An additional important factor in understanding the relationship between RPI, group identity, and rule-breaking is how this behavior develops over time. Ewelt-Knauer, Schwering, and Winkelmann (2022) analyzed the temporal development of rule-breaking and found interesting patterns. In high group identity conditions without RPI, rule-breaking levels remain relatively low and constant over time. This is consistent with employees' primary motivation to impress colleagues through rule compliance, a strategy that does not change significantly over time.

Conversely, in high group identity conditions with RPI, rule-breaking tends to increase substantially over time. This increase indicates that employees learn to utilize RPI for social comparison and self-promotion purposes, which increases psychological rewards and reduces psychological costs of rule-breaking over time.

Interestingly, in low group identity conditions, differences in temporal trajectories between conditions with and without RPI are less clear. Rule-breaking levels in both conditions are relatively constant or increase moderately over time, reaffirming the limited impact of RPI on rule-breaking

behavior when group identity is low. This temporal analysis provides additional insights into the dynamics of the relationship between RPI, group identity, and rule-breaking. It suggests that RPI's influence on rule-breaking in high group identity contexts is not just a temporary phenomenon but can become stronger over time, with potentially significant long-term implications for organizations.

Practical Implications

The findings discussed in this paper have important practical implications for organizations and managers. Understanding how RPI and group identity interact to influence rule-breaking can help organizations design more effective performance evaluation systems and incentive structures, as well as develop appropriate control mechanisms to prevent unwanted rule violations.

4.1 Performance Information System Design

One of the main implications of these findings is that organizations need to consider the level of group identity when designing and implementing performance information systems. Specifically:

- Consider social context: Organizations must recognize that RPI does not operate in a vacuum but interacts with contextual factors such as group identity. The effects of RPI on employee motivation and behavior will vary depending on the social context in which the system is implemented.
- Be cautious with RPI in high group identity environments: In environments with high group identity, organizations should be cautious in implementing RPI because it can encourage rule-breaking. If RPI is considered important in such environments, organizations may need to implement additional controls to prevent or minimize rule violations.
- Focus on measurable performance aspects: To reduce the likelihood of rule-breaking, organizations can design RPI systems that focus on objectively measurable performance aspects that are not easily manipulated through rule violations.
- Consider multi-dimensional performance measures: Instead of relying on single performance measures, which can motivate employees to focus narrowly on those metrics (possibly at the expense of rule compliance), organizations can use multi-dimensional performance measures that include various aspects of desired behavior, including rule compliance.
- Adapt RPI to context: In environments with low group identity, RPI may have lower risk of encouraging rule-breaking but may also be less effective in enhancing motivation and performance. In such contexts, organizations may need to consider additional incentives or alternative forms of feedback to encourage desired performance.

4.2 Group Identity Management

Organizations can also actively manage the level of group identity to mitigate negative consequences of RPI or enhance its effectiveness:

- Align group identity with RPI system goals: Organizations can lower group identity in contexts where RPI is considered important to reduce the risk of rule-breaking. Conversely, they can increase group identity in contexts where RPI is not used or where rule compliance is the primary focus.
- Strategies for managing group identity: Organizations can use various strategies to manage group identity, such as:
    - Changing team composition (e.g., making teams more homogeneous or heterogeneous)
    - Regulating frequency of interaction among team members
    - Manipulating psychological closeness among team members (e.g., through team-building activities or workplace arrangements)
    - Emphasizing or minimizing shared goals and interdependent fate
- Consider group identity in structural design: Decisions about organizational structure, team size, workplace arrangements (e.g., remote versus on-site), and communication practices can influence group identity and, consequently, the impact of RPI on rule-breaking behavior.

4.3 Rule-Breaking Prevention

To prevent unwanted rule violations, especially in contexts where RPI is provided in environments with high group identity, organizations can implement several strategies:

- Control and monitoring: Organizations can implement stricter controls and monitoring mechanisms to prevent or detect rule violations. However, it should be noted that this approach may incur additional costs and potentially alienate employees, so it must be implemented carefully.
- Education and awareness: Organizations can educate employees about the long-term consequences of performance-improving rule-breaking, both for individuals and organizations. Increasing awareness of potential risks and losses can help mitigate tendencies to break rules.
- Incentive alignment: Organizations can align incentives with rule compliance, not just final performance. For example, they can provide bonuses or recognition for rule compliance or design compensation systems that consider both performance and compliance.
- Ethical culture: Organizations can work to create and maintain cultures that value ethical behavior and rule compliance. This can include setting examples from the top (tone at the top), developing clear codes of ethics, and promoting values that emphasize integrity and responsibility.
- Effective rule design: Organizations must ensure that the rules they implement are necessary, clear, fair, and realistic. Rules considered unnecessary or impractical are more likely to be violated, especially when there are strong incentives to improve performance.

4.4 Implications for Management Accounting Practitioners

Findings from this research have specific implications for management accounting practitioners, who are often responsible for designing and implementing performance information systems:

- Holistic approach to control system design: Management accounting practitioners must adopt a more holistic approach to control system design, considering not only direct effects of RPI on motivation and performance but also its interactions with contextual factors such as group identity.
- Consideration of behavioral factors: In addition to economic factors, management accounting practitioners must consider behavioral factors that influence how employees respond to performance information, including impression management, social comparison, and self-concept maintenance.
- Balance between control and trust: Management accounting practitioners must seek the right balance between control and trust in their systems. Too much control can alienate employees and reduce intrinsic motivation, while too little control can allow widespread rule violations.
- Long-term impact evaluation: Management accounting practitioners must evaluate the long-term impacts of their performance information systems, not only on performance but also on ethical behavior, rule compliance, and overall organizational culture.

By considering these implications, organizations and management accounting practitioners can design more effective systems that encourage high performance while minimizing unwanted negative consequences.

This paper analyzes the relationship between relative performance information (RPI), group identity, and performance-improving rule breaking based on a comprehensive review of current literature. The analysis reveals that the impact of RPI on rule breaking is not uniform but depends on the level of group identity present in the organization, with complex interactions between these two factors. In contexts of low group identity, RPI has minimal impact on rule breaking. Individuals primarily focus on personal moral standards and economic incentives when deciding whether to break rules, regardless of whether RPI is provided or not. Because group members are not considered psychologically important, performance comparisons with them do not provide

significant psychological rewards, and impression management strategies remain relatively unchanged. Conversely, in contexts of high group identity, RPI can significantly increase rule breaking. When RPI is not provided, individuals tend to make good impressions by behaving ethically and complying with rules (ingratiation).

However, when RPI is provided, they shift to strategies of achieving high rankings through rule breaking (self-promotion). High performance rankings provide strong psychological rewards when compared to individuals considered important, which can offset the psychological costs of rule breaking. Further temporal analysis shows that rule breaking tends to increase over time when RPI is provided in high group identity contexts, suggesting that employees learn to leverage RPI for social comparison and self-promotion purposes over time. This pattern highlights the potential long-term implications of the interaction between RPI and group identity. These findings underscore the importance of considering contextual factors such as group identity when designing and implementing performance information systems. Organizations need to carefully manage the interaction between RPI and group identity to maximize the benefits of performance information while minimizing undesired negative consequences. This paper also identifies several psychological mechanisms underlying this relationship, including self-concept maintenance, moral disengagement, social comparison, and impression management. Understanding these mechanisms provides valuable insights into the cognitive and emotional processes that guide employee decision-making regarding whether to comply with or violate rules.

Based on these findings, this paper offers several practical implications for organizations and managers. Organizations need to consider the level of group identity when designing performance information systems, actively manage group identity to mitigate negative consequences of RPI, and implement strategies to prevent undesired rule breaking. Management accounting practitioners, in particular, should adopt a more holistic approach to control system design, consider behavioral factors in addition to economic factors, and evaluate the long-term impact of their systems. Overall, this research contributes to our understanding of how contextual factors influence the impact of management accounting practices on employee behavior. By understanding the complex interactions between RPI, group identity, and rule breaking, organizations can design more effective systems that encourage high performance while minimizing undesired negative consequences.

CONCLUSION

Based on comprehensive analysis of existing literature, this research successfully reveals the complex relationship between relative performance information (RPI), group identity, and rule breaking in organizational environments. The main findings indicate that the impact of RPI on rule breaking is not universal, but rather highly dependent on the level of group identity present in the organization. In contexts of groups with strong identity, RPI tends to increase rule breaking because individuals are motivated to impress colleagues through achieving high performance rankings, even if it requires violating existing rules. Conversely, in groups with weak identity, RPI shows minimal impact on rule breaking because individuals rely more on personal moral standards and economic considerations in decision-making.

This research also successfully identifies four main psychological mechanisms underlying this relationship: impression management, social comparison, self-concept maintenance, and moral disengagement. These mechanisms do not operate separately, but interact in shaping individual decisions to comply with or violate rules. Understanding these psychological mechanisms provides valuable insights for organizations in designing more effective performance information systems and managing undesired consequences.

From a practical perspective, the findings of this research have significant implications for the design and implementation of organizational performance information systems. Organizations need to consider the level of group identity when implementing RPI, develop appropriate group identity management strategies, and implement effective control mechanisms to prevent undesired rule

breaking. This includes the need for a more holistic approach to control system design, consideration of behavioral factors beyond economic aspects, and evaluation of the long-term impact of performance information systems on organizational culture and employee ethical behavior. The theoretical contribution of this research lies in developing a more nuanced understanding of how contextual factors influence the effectiveness of management accounting practices. This research enriches the literature on management control systems by showing that the effects of performance information cannot be understood separately from the social context in which that information is used. These findings challenge overly simplistic views of the relationship between performance information and employee motivation, and emphasize the importance of considering psychological and social factors in management accounting system design.

Although this research provides valuable insights, several limitations need to be acknowledged. Reliance on experimental studies in controlled environments may limit the generalization of findings to actual organizational settings. Additionally, the focus on performance-improving rule breaking opens opportunities for further exploration of other types of rule breaking. Future research is expected to deepen understanding of the identified psychological mechanisms, explore other contextual factors that may be influential, and develop practical interventions that can help organizations manage the negative side effects of RPI without sacrificing its motivational benefits. Overall, this research makes an important contribution to our understanding of organizational behavioral dynamics in the context of performance information systems. The resulting findings not only enrich academic literature but also provide practical guidance for organizations in designing systems that encourage high performance while maintaining high ethical standards.

BIBLIOGRAPHY

Akerlof, G. A., & Kranton, R. E. (2005). Identity and the economics of organizations. *Journal of Economic Perspectives*, *19*(1), 9-32. https://doi.org/10.1257/0895330053147930

Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. *The Academy of Management Review*, *14*(1), 20-39. http://dx.doi.org/10.5465/AMR.1989.4278999

Azmat, G., & Iriberri, N. (2010). The importance of relative performance feedback information: Evidence from a natural experiment using high school students. *Journal of Public Economics*, *94*(7-8), 435-452. https://doi.org/10.1016/j.jpubeco.2010.04.001

Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review*, *3*(3), 193-209. https://psycnet.apa.org/doi/10.1207/s15327957pspr0303_3

Bandura, A. (2002). Selective moral disengagement in the exercise of moral agency. *Journal of Moral Education*, *31*(2), 101-119. https://doi.org/10.1080/0305724022014322

Bartlett, N. (2016). Businesses spend double on team building days for staff to keep workers happy. *Mirror*. https://www.mirror.co.uk/news/business/businesses-spend-double-team-building-8058785

Beach, S., & Tesser, A. (1995). Self-esteem and the extended self-evaluation maintenance model: The self in social context. In M. Kernis (Ed.), *Efficacy, agency, and self-esteem*. Plenum Press. http://dx.doi.org/10.1007/978-1-4899-1280-0_8

Berger, L., Fiolleau, K., & MacTavish, C. (2019). I know something you don't know: The effect of relative performance information and individual performance incentives on knowledge sharing. *Journal of Management Accounting Research*, *31*(2), 19-35. https://doi.org/10.2308/jmar-52152

Bolino, M. C. (1999). Citizenship and impression management: Good soldiers or good actors? *The Academy of Management Review*, *24*(1), 82-98. https://psycnet.apa.org/doi/10.2307/259038

Bolino, M. C., & Turnley, W. H. (1999). Measuring impression management in organizations: A scale development based on the Jones and Pittman taxonomy. *Organizational Research Methods*, *2*(2), 187-206. https://doi.org/10.1177/109442819922005

Bolino, M. C., Long, D., & Turnley, W. (2016). Impression management in organizations: Critical questions, answers, and areas for future research. *Annual Review of Organizational Psychology and Organizational Behavior*, *3*(1), 377-406. http://dx.doi.org/10.1146/annurev-orgpsych-041015-062337

Carmeli, A., Gilat, G., & Waldman, D. A. (2007). The role of perceived organizational performance in organizational identification, adjustment, and job performance. *Journal of Management Studies*, *44*(6), 972-992. https://psycnet.apa.org/doi/10.1111/j.1467-6486.2007.00691.x

Charness, G., Masclet, D., & Villeval, M. C. (2014). The dark side of competition for status. *Management Science*, *60*(1), 38-55. https://psycnet.apa.org/doi/10.1287/mnsc.2013.1747

Charness, G., Rigotti, L., & Rustichini, A. (2007). Individual behavior and group membership. *American Economic Review*, *97*(4), 1340-1352. https://doi.org/10.1257/aer.97.4.1340

Chen, M., Chen, C. C., & Sheldon, O. J. (2016). Relaxing moral reasoning to win: How organizational identification relates to unethical pro-organizational behavior. *Journal of Applied Psychology*, *101*(8), 1082-1096. https://psycnet.apa.org/doi/10.1037/apl0000111

Chen, Y., & Li, S. X. (2009). Group identity and social preferences. *American Economic Review*, *99*(1), 431-457. https://doi.org/10.1257/aer.99.1.431

Coletti, A. L., Sedatole, K. L., & Towry, K. L. (2005). The effect of control systems on trust and cooperation in collaborative environments. *The Accounting Review*, *80*(2), 477-500. https://www.jstor.org/stable/4093066

De Cremer, D., & Van Lange, P. A. M. (2001). Why prosocials exhibit greater cooperation than proselfs: The roles of social responsibility and reciprocity. *European Journal of Personality*, *15*(1), 5-18. https://research.vu.nl/ws/portalfiles/portal/1746305/Cremer%20European%20Journal%20of%20Personality%2015%202001%20u.pdf

Ellemers, N. (1993). The influence of socio-structural variables on identity management strategies. *European Review of Social Psychology*, *4*(1), 27-57. https://doi.org/10.1080/14792779343000013

Ewelt-Knauer, C., Knauer, T., & Lachmann, M. (2015). Fraud characteristics and their effects on shareholder wealth. *Journal of Business Economics*, *85*(9). http://dx.doi.org/10.1007/s11573-015-0773-5

Ewelt-Knauer, C., Knauer, T., & Sharp, D. (2020). The effect of relative performance information, peers' rule-breaking, and controls on employees' own rule-breaking. *European Accounting Review*, *29*(5), 927-948. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2696613

Ewelt-Knauer, C., Schwering, A., & Winkelmann, S. (2022). Doing good by doing bad: How tone at the top and tone at the bottom impact performance-improving noncompliant behavior. *Journal of Business Ethics*, *175*(3), 609-624. https://link.springer.com/article/10.1007/s10551-020-04647-6

Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, *7*(2), 117-140. https://doi.org/10.1177/001872675400700202

Frederickson, J. (1992). Relative performance information: The effect of common uncertainty and contract type on agent effort. *The Accounting Review*, *67*(4), 647-669. https://labordoc.ilo.org/discovery/fulldisplay?docid=cdi_proquest_journals_1301312349&context=PC&vid=41ILO_INST:41ILO_V1&lang=en&search_scope=MyInst_and_CI&adaptor=Primo%20Central&tab=Everything&query=null,,1%20online%20resource%20(240%20pages).,AND&mode=advanced

Hales, S. (1985). The inadvertent rediscovery of self in social psychology. *Journal for the Theory of Social Behaviour*, *15*(3), 237-282. https://psycnet.apa.org/doi/10.1111/j.1468-5914.1985.tb00056.x

Hannan, R. L., Krishnan, R., & Newman, A. H. (2008). The effects of disseminating relative performance feedback in tournament and individual performance compensation plans. *The Accounting Review*, *83*(4), 893-913. http://dx.doi.org/10.2308/accr.2008.83.4.893

Hannan, R. L., McPhee, G. P., Newman, A. H., & Tafkov, I. D. (2013). The effect of relative performance information on performance and effort allocation in a multi-task environment. *The Accounting Review*, *88*(2), 553-575. http://dx.doi.org/10.2139/ssrn.1660184

Hannan, R. L., McPhee, G. P., Newman, A. H., Tafkov, I. D., & Kachelmeier, S. J. (2019). The informativeness of relative performance information and its effect on effort allocation in a multitask environment. *Contemporary Accounting Research*, *36*(3). http://dx.doi.org/10.1111/1911-3846.12482

Hannan, R. L., Rankin, F. W., & Towry, K. L. (2006). The effect of information systems on honesty in managerial reporting: A behavioral perspective. *Contemporary Accounting Research*, *23*(4), 885-918. https://doi.org/10.1506/8274-J871-2JTT-5210

Hartmann, F., & Schreck, P. (2018). Rankings, performance, and sabotage: The moderating effects of target setting. *European Accounting Review*, *27*(2), 363-382. https://doi.org/10.1080/09638180.2016.1244015

Hauser, C., & Hogenacker, J. (2014). Do firms proactively take measures to prevent corruption in their international operations? *European Management Review*, *11*(3-4), 223-237. https://doi.org/10.1111/emre.12035

Homans, G. C. (1950). *The human group*. Harcourt, Brace. https://doi.org/10.12691/jbms-2-3-2

Jones, E. E., & Pittman, T. S. (1982). Toward a general theory of strategic self-presentation. In J. Suls (Ed.), *Psychological perspectives on the self* (pp. 231-261). Lawrence Erlbaum. https://web.mit.edu/curhan/www/docs/Articles/15341_Readings/Self-presentation_Impression_Formation/Jones%20&%20Pittman%201982.pdf

Kang, M. Y., Park, H., Seo, J. C., Kim, D., Lim, Y. H., Lim, S., Cho, S. H., & Hong, Y. C. (2012). Long working hours and cardiovascular disease: A meta-analysis of epidemiologic studies. *Journal of Occupational and Environmental Medicine*, *54*(5), 532-537. https://doi.org/10.1097/jom.0b013e31824fe192

Kelly, K., & Presslee, A. (2017). Tournament group identity and performance: The moderating effect of winner proportion. *Accounting, Organizations and Society*, *56*, 21-34. https://doi.org/10.1016/j.aos.2016.12.001

Kramer, S., Maas, V. S., & van Rinsum, M. (2016). Relative performance information, rank ordering and employee performance: A research note. *Management Accounting Research*, *33*, 16-24. http://hdl.handle.net/1765/82515

Mazar, N., Amir, O., & Ariely, D. (2008). The dishonesty of honest people: A theory of self-concept maintenance. *Journal of Marketing Research*, *45*(6), 633-644. http://dx.doi.org/10.1509/jmkr.45.6.633

Pickerd, J. S., Summers, S. L., & Wood, D. A. (2015). An examination of how entry-level staff auditors respond to tone at the top vis-a-vis tone at the bottom. *Behavioral Research in Accounting*, *27*(1). https://dx.doi.org/10.2139/ssrn.2008932

Pinto, J., Leana, C. R., & Pil, F. K. (2008). Corrupt organizations or organizations of corrupt individuals? Two types of organization-level corruption. *Academy of Management Review*, *33*(3), 685-709. https://psycnet.apa.org/doi/10.2307/20159431

Pleban, R., & Tesser, A. (1981). The effects of relevance and quality of another's performance on interpersonal closeness. *Social Psychology Quarterly*, *44*(3), 278-285. https://doi.org/10.2307/3033841

Rousseau, D. M. (1998). Why workers still identify with organizations. *Journal of Organizational Behavior*, *19*(3), 217-233. https://psycnet.apa.org/doi/10.1002/(SICI)1099-1379(199805)19:3%3C217::AID-JOB931%3E3.0.CO;2-N

Rowe, C. (2004). The effect of accounting report structure and team structure on performance in cross-functional teams. *The Accounting Review*, *79*(4), 1153-1180. http://dx.doi.org/10.2308/accr.2004.79.4.1153

Sherif, M. (1966). *In common predicament: Social psychology of intergroup conflict and cooperation*. Houghton Mifflin.

Sparks, K., Cooper, C., Fried, Y., & Shirom, A. (1997). The effects of hours of work on health: A meta-analytic review. *Journal of Occupational and Organizational Psychology*, *70*(4), 391-408. https://psycnet.apa.org/doi/10.1111/j.2044-8325.1997.tb00656.x

Tafkov, I. D. (2013). Private and public relative performance information under different compensation contracts. *The Accounting Review*, *88*(1), 327-350. http://dx.doi.org/10.2308/accr-50292

Tajfel, H. (1978). *Differentiation between social groups: Studies in the social psychology of intergroup relations*. Academic Press. https://www.scirp.org/reference/referencespapers?referenceid=204214

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7-24). Nelson-Hall. https://psycnet.apa.org/doi/10.4324/9780203505984-16

Tepper, B. J. (2010). When managers pressure employees to behave badly: Toward a comprehensive response. *Business Horizons*, *53*(6), 591-598. http://dx.doi.org/10.1016/j.bushor.2010.07.002

Tesser, A. (1988). Toward a self-evaluation maintenance model of social behavior. *Advances in Experimental Social Psychology*, *21*, 181-227. https://doi.org/10.1016/S0065-2601(08)60227-0

Tesser, A., & Campbell, J. (1982). Self-evaluation maintenance and the perception of friends and strangers. *Journal of Personality*, *50*(3), 261-279. https://psycnet.apa.org/doi/10.1111/j.1467-6494.1982.tb00750.x

Tesser, A., Millar, M., & Moore, J. (1988). Some affective consequences of social comparison and reflection processes: The pain and pleasure of being close. *Journal of Personality and Social Psychology*, *54*(1), 49-61. https://psycnet.apa.org/doi/10.1037/0022-3514.54.1.49

Tesser, A., & Smith, J. (1980). Some effects of task relevance and friendship on helping: You don't always help the one you like. *Journal of Experimental Social Psychology*, *16*(6), 582-590. https://psycnet.apa.org/doi/10.1016/0022-1031(80)90060-8

Towry, K. L. (2003). Control in a teamwork environment - The impact of social ties on the effectiveness of mutual monitoring contracts. *The Accounting Review*, *78*(4), 1069-1095. http://dx.doi.org/10.2308/accr.2003.78.4.1069

Tsui, A. S., Egan, T. D., & O'Reilly, C. A. (1992). Being different: Relational demography and organizational attachment. *Administrative Science Quarterly*, *37*(4), 549-579. https://psycnet.apa.org/doi/10.2307/2393472

U.S. Chemical Safety and Hazard Investigation Board. (2007). *Investigation report: Refinery explosion and fire, BP Texas City, Texas, March 23, 2005* (Report No. 2005-04-I-TX). https://refiningcommunity.com/wp-content/uploads/2017/06/CSB-Investigation-of-BP-Refinery-Explosion-and-Fire-Visscher-CSB-DCU-League-City-2007.pdf

Wood, A. J., Graham, M., Lehdonvirta, V., & Hjorth, I. (2019). Good gig, bad gig: Autonomy and algorithmic control in the global gig economy. *Work, Employment and Society*, *33*(1), 56-75. https://doi.org/10.1177/0950017018785616