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Employee performance and mental well-being: The mitigating effects of transformational leadership during crisis*

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The positive role of transformational leadership on productivity and mental well-being has long been established. Transformational leadership behavior may be particularly suited to navigate times of crisis which are characterized by high levels of complexity and uncertainty. We exploit quasi-random assignment of employees to managers and study the role of frontline managers' leadership styles on employees' performance, work style, and mental well-being in times of crisis. Using longitudinal administrative data and panel survey data from before and during the Covid-19 pandemic, we find that frontline managers who were perceived as having a more transformational leadership style before the onset of the pandemic, lead employees to better performance and mental well-being during the pandemic.

Keywords: leadership, frontline managers, labor-management relations, organizational behavior, crisis

JEL Codes: M54, M12, J53

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1. Introduction

Leadership is thought to play a critical role in the success of individuals, teams, organizations, and even societies. It is hence widely studied in various disciplines such as management, psychology, and more recently also economics. One cornerstone of leadership research is the styles of leaders, and one of the most studied styles is transformational leadership (Siangchokyoo et al., 2020). First introduced by Burns (1978), the idea of transformational leadership is that leaders create a common vision among followers, instill a sense of identity, and unleash intrinsic motivation. This stands in contrast to transactional leadership, i.e., the focus on the proper exchange of resources and reliance on contract- and incentive-based leadership techniques. While meta-analyses point to mostly positive effects of transformational leadership on outcomes such as productivity or well-being (Montano et al., 2023, 2017; Wang et al., 2011), transactional leadership can also be beneficial (Bass et al., 2003; Jiang et al., 2019; Abbas & Ali, 2023). Reconciling this diverging evidence, Zehnder et al. (2017) suggest that the optimal leadership style depends on the environment and its complexity. Empirical evidence on this proposition, however, is scarce (Siangchokyoo et al., 2020).

Crises are increasingly recognized as important sources of complexity: They introduce the need to define and accomplish new tasks, and they generally increase uncertainty. We focus on the Covid-19 pandemic as a severe crisis and hence a surge in complexity. To study the role of rather transformational as compared to rather transactional leadership for employees' outcomes in times of crises, we exploit longitudinal panel data on performance and quasi-random assignment of employees to managers. We document better performance for employees under rather transformational leadership that emerges during the crisis, i.e., times of high complexity. Importantly, this better performance is accompanied by higher mental well-being. In addition, we examine performance differentials prior to the crisis and explore how leadership style assessments change from before to during the crisis.

We provide the first empirical evidence for Zehnder et al. (2017)'s proposition that the complexity of the environment determines the optimal leadership style: For simpler environments, transactional, incentive-based systems are arguably better suited to motivate employees extrinsically. Managers try to align the interests of the employees and the organization by making rewards such as pay or promotions contingent on performance (Burns, 1978). This can be spelled out explicitly in formal contracts when either input or output is contractible (Zehnder et al., 2017). In complex environments that constantly change, it is difficult to contract tasks and define corresponding rewards and sanctions. In such cases, transformational leadership can be more promising (Zehnder et al., 2017). Transformational leaders aim at providing employees

with a common mission and vision (Shamir et al., 1993), or even instilling an identity (Akerlof & Kranton, 2000). Such an identity can direct behavior as it provides guidance on how a 'good employee' ought to behave. Having a strong sense of such an identity, deviating from prescribed behavior can be psychologically costly, due to, e.g., a sense of guilt or shame. Employees will hence be intrinsically motivated to contribute to the success of the organization even absent incentives.[1] Since transformational leadership comes at the cost of substantial investments of the leader to influence their followers' preferences by establishing a common vision or shared identity, its benefits may only outweigh its cost in complex environments. We empirically test the hypothesis that transformational leaders outperform transactional ones under high complexity induced by the Covid-19 pandemic.

We study a setting that has been particularly affected by the pandemic-induced crisis: The financial industry in low- and middle-income countries that caters to hard-to-reach segments of the market by offering microfinance services. Field staff who usually travel to remote and rural areas to conduct transactions in person were severely restricted in their movement by lockdowns. In addition, debt moratoria allowed many borrowers to pause their repayments, which put additional pressure on the cash flow management of the institutions. Complexity and uncertainty of the work environment skyrocketed, and established incentive schemes became inapplicable due to exogenous restrictions and policy measures. This makes ours an ideal setting to test Zehnder et al. (2017)'s proposition empirically.

In addition to the complex operational challenges and exogenously imposed constraints, there are further reasons why this setting is interesting. First, the Covid-19 pandemic was completely unexpected and entailed unanticipated consequences. This implies that there were no mitigating strategies in place, so we can rule out that the effects of leadership styles are confounded by better preparedness of certain leaders. Second, we can measure individual performance and mental well-being and thus identify granular effects of leadership styles. This is important as the crisis affected employees' performance and mental well-being in this sector negatively (Malik et al., 2020; Czura et al., 2022). Third, our setting allows us to overcome several methodological challenges that the literature commonly faces (Collins et al., 2023): Our longitudinal panel data of monthly performance indicators from before and during the crisis allow us to identify changes in outcomes over time and at different levels of complexity. In addition, staffing is centrally planned and mandated in a quasi-random fashion, such that the matching process of employees

[1] While transformational and transactional leadership are conceptual substitutes, we note that in practice managers will rarely operate absent a basic level of incentives. Thus, transformational leadership can be thought of as an extension of a basic level of transactional leadership that augments rewards and sanctions with mission, vision, and identity (Zehnder et al., 2017). Beyond this basic level, more sophisticated transactional and tranformational leadership can actually be substitutes.

to managers and hence leadership styles is exogenous. Similar to Hertzberg et al. (2010); Fisman et al. (2017) and Bhowal et al. (2021), we exploit this natural experiment to improve inference.

We study 146 branches of a large Indian Not-for-profit Microfinance Institution. Each of these branches has one branch manager and two to eight loan officers. Branch managers are frontline managers and directly responsible for the supervision of the loan officers, i.e. the employees in their branch who establish and maintain links to the clients. We define each branch manager's leadership style as rather transactional or rather transformational based on their subordinate employees' rating from the Global Transformational Leadership questionnaire (Carless et al., 2000). In our main analysis, we focus on the pre-crisis leadership rating since leadership behavior is traditionally viewed as a stable, innate characteristic of the leader.[2]

We link 146 managers' leadership style to measures of performance, work style, and mental well-being of 585 employees. For this, we use monthly administrative data on multiple performance indicators of individual employees, such as the number of new clients acquired or the financial performance of the managed loan portfolio from October 2019 to January 2021. In addition, we use detailed survey data from before and during the pandemic to measure employees' work styles, and data collected during the pandemic on mental well-being. We observe how employees' outcomes change over the course of the crises. To understand the role of leadership, we differentiate these trajectories by leadership styles. Our estimation strategy exploits the longitudinal dimension of the outcome variables. We use a difference-in-differences estimation strategy for outcome variables that we observe before and during the crisis. Moreover, we split the crisis into a period of particularly high uncertainty in which the Covid-19 pandemic disrupted regular operations heavily due to the national debt moratorium (April – August 2020), and a period of lower uncertainty after the moratorium (September – January 2021). We apply a simple difference estimation strategy for outcomes that we only observe during the crisis.

We find differences in outcomes by leadership before the crisis: Employees whose frontline managers have a more transformational leadership style handle fewer clients and acquire fewer new clients. With respect to work styles and effort, we find that transformational leaders induce more planning and effort, and shorter working times among their employees. After the onset of the Covid-19 pandemic, rather transformational leaders do better in leading their employees, in line with Zehnder et al. (2017)'s proposition. Their employees perform better on several dimensions: They acquire more new clients, they handle more clients in total, and their financial

[2]This also addresses concerns that leadership perceptions are affected by the crisis, which also affects outcomes and hence jeopardizes causal identification of effects. Birkeland et al. (2017) report changes in leadership perception following a terrorist attack at the workplace: Employees suffering from high post-traumatic stress viewed their immediate leader as less supportive, while unaffected employees viewed their leaders similarly to before the attack.

portfolio performs better. We observe no change in work style but an increase in the working time of these employees. Results are similar for both periods of crisis and the magnitude of the effects implies that employees of rather transformational leaders catch up with their peers led by rather transactional leaders during the crisis. Further, the subjective well-being of employees of transformational leaders is higher in June and July 2020, and perceived stress lower.

Using a pre-crisis leadership measure is in line with the traditional conceptualization of leadership behavior as a stable, innate characteristic of the leader.[3] However, it stands in contrast to recent findings of leadership changes as a result of crisis (e.g., Stoker et al., 2019; Garretsen et al., 2022). While these recent studies focus on participative vs. directive styles, we also address potential changes in transformational and transactional leadership styles in exploratory analyses. We find little changes in leadership styles in response to the crisis: On average, front-line managers receive lower transformational leadership scores, but our classification of rather transformational vs. rather transactional leaders remains largely unaffected.

Our research contributes to three strands of literature. First, we contribute to the literature documenting the relationship between transformational leadership and employees' outcomes (see for example Zehnder et al. (2017) for an overview). This literature has established positive links of transformational leadership to employee productivity (e.g., Jin et al., 2016; Bass et al., 2003; Ng, 2017; Casas-Arce & Martínez-Jerez, 2022) and to mental well-being (e.g., Braun et al., 2013; Samad et al., 2022; Sosik & Godshalk, 2000; Liu et al., 2010; Kloutsiniotis et al., 2022). While most studies focus either on the effects of leadership on performance or on employee well-being, we examine effects on both outcomes in one setting. Further, we advance the empirical identification of effects by exploiting the quasi-random assignment of leaders to employees in our setting. We find that effects on performance depend on circumstances: Transactional leadership appears to be beneficial during 'normal' times in our setting when high-powered incentives are in place. In contrast, transformational leaders appear to better navigate the crisis when complexity surges and standard incentive schemes become inapplicable. This suggests a more nuanced view of leadership styles, consistent with Zehnder et al. (2017) arguing that the optimal leadership style depends on the complexity of the environment. In terms of mental well-being, our results suggest that employees cope better with times of crisis under more transformational leadership.

Second, we contribute to the expanding literature on leadership and crisis management (see Wu et al. (2021) and Collins et al. (2023) for recent reviews). Existing work distinguishes two

[3]This conceptualization is supported by several documented linkages between a leader's personality and their transformational leadership behavior (see Bono & Judge (2004) and Dóci & Hofmans (2015)). For instance, emotional intelligence (Barling et al., 2000), core self-evaluations (Resick et al., 2009), positive psychological traits such as hope, optimism, or resilience (Peterson et al., 2009), internal locus of control, and extraversion (Judge & Bono, 2000) have all been shown to relate positively to transformational leadership ratings.

different aspects: First, how leadership styles change in times of crises (see, for example, Bligh et al. (2004); Boin et al. (2013); Zhang et al. (2012) on political leadership). For managers, Stoker et al. (2019) and Garretsen et al. (2022) find that both the financial crisis and the Covid-19 pandemic led to an increase in directive as opposed to participative leadership behavior among repeated cross-sectional samples before and after the crises. Regarding transformational leadership in crisis, Dóci & Hofmans (2015) document in a lab experiment that leaders become less transformational when they encounter overwhelmingly complex tasks. The second aspect is how different types of leadership may mitigate the effects of crises. While this aspect is mostly neglected, Sommer et al. (2016) and Ma & Yang (2020) suggest that transformational leadership in times of crisis is positively related to worker resilience and crisis management, respectively. Reviewing this literature, Collins et al. (2023) note that existing studies on crisis leadership often face methodological limitations due to, for example, the cross-sectional nature of the data collected at one point in time (usually during or after the crisis). We contribute to this literature in several ways. First, we use detailed employee panel data to analyze the mitigating effects of leadership styles on employees' performance in normal times and in times of crisis in an emerging market economy. Second, we study employee's mental well-being, an outcome that has been severely affected by the Covid-19 pandemic (e.g., Rajkumar, 2020; Sibley et al., 2020; Banks & Xu, 2020; Davillas & Jones, 2021; Adams-Prassl et al., 2022). Third, we limit endogeneity concerns by the quasi-random assignment of leaders to employees and by linking pre-pandemic leadership style measures to employees' performance. Fourth, our unique longitudinal data on leadership style allows us to explore the change in leadership ratings within managers. Our findings suggest that innate characteristics of more transformational leadership can make employees more resilient.

Lastly, we contribute to the growing literature on the role of frontline managers in shaping employee outcomes (e.g., Baek et al., 2022; den Nieuwenboer et al., 2017). Two studies examine transformational leadership of such managers. Hill et al. (2011) document how direct managers' transformational leadership shapes employees' attitudes toward radical organizational change, whereas Farahnak et al. (2020) provide evidence for a positive relationship between transformational leadership of frontline managers and attitudes toward and success of the implementation of an innovative practice. We complement this survey-based work with a combination of administrative performance data and panel survey data and study outcomes under varying levels of complexity. Further, we blend this literature with the literature on crisis leadership: While most studies on crisis leadership focus on strategic level leaders such as CEOs (Collins et al., 2023),

surprisingly little is known about frontline managers who interact with employees frequently and more "hands on", and are arguably of substantial importance in crisis situations.

2. Background

Institutional setting

We partner with an Indian microfinance institution that focuses its operations on Northern India.[4] It provides financial services to poor women with the aim of supporting income-generating activities and eradicating poverty. In 2021, this financial institution served a total of nearly 750,000 active borrowers who held loans worth about 15 billion INR (about 172 million EUR at the time of writing). The institution operates via 450 branches that are located in eight different states.

As typical for the sector, the loan officers are the main field staff and responsible for all client-facing work. Clients are typically located in rural areas, so loan officers travel from the branch to the clients' villages where they provide services in face-to-face interactions. One main task is to ensure existing clients repay their loans, which happens during group meetings. In these, clients of a village come together, usually on a monthly basis. The loan officer chairs the meeting and supervises repayment. They also advertise new products and monitor how the loan is used. The most important metric for assessing performance in this set of tasks is financial performance, measured as the share of the outstanding loan repayments collected. An additional set of tasks relates to the expansion of the client portfolio, e.g., by selecting potential villages and establishing business relationships with poor women. The performance in this task is measured by the number of newly acquired clients. On average, one employee serves 547 clients. Clients can be of two main types: Standard clients only receive loans if a group provides social collateral, i.e., agrees to be liable for the loan and to repay in case of delinquency. These group clients form the vast majority of clients an employee serves (91%) and they conduct all transactions in the group meetings. Existing clients who are assessed to be especially creditworthy are offered a loan without social collateral. These clients are served individually and they do not need to attend any group meetings. In normal times, the organization monetarily incentivizes the acquisition of these individual borrowers because they have larger loan sizes and

[4]The collaboration started in 2018 to study the effects of incentive schemes on work organization and performance. We collected baseline data in December 2019 but due to the Covid-19 pandemic, could not implement the field experiment that was planned to be rolled out in April 2020. We decided to collect additional data that we use, together with the baseline data, in this paper as well as in another paper. In the other paper, we descriptively document the time use and tasks of loan officers as well as their output and mental well-being. We use the leadership data and exploit the random assignment of employees to managers only in the present paper.

hence lower relative costs per loan, and it is more difficult to acquire suitable clients. However, their financial performance can be more volatile compared to group borrowers since they do not benefit from the group's mutual insurance for loan repayment. Further monetary incentives are in place for targets that relate to the financial performance, the number of newly acquired group clients, and the total number of clients served.

The branches are led by a branch manager who supervises the two to eight loan officers of the branch. The branch managers can best be thought of as frontline managers. The minimum qualification requirement is a university degree and three years of relevant work experience.[5] Managers do not handle clients themselves. Instead, they set goals for their branch with the area hubs of the organization, they plan how to achieve these goals, they coordinate the work of the employees assigned to the branch, and they monitor and supervise their employees. The importance of the managers for the work of employees is highlighted by one loan officer interviewed in August 2019: "*I think an [employee] does a good job only if the manager is good. [...In] some of the branches, the [employees] can't do the work properly. The fault lies with their respective managers.*" The managers' payment is tied to the performance aggregated across all employees of their branch. This bonus payment takes into account the number of clients served, the number of newly acquired clients (in total and by client type), and the financial performance of the branch. We present further descriptive statistics on both employees and frontline managers in Section 4.1.

Planning of staff is centrally done at headquarters. This includes determining the number of loan officers per branch, allocating loan officers to branches, etc. Branch managers may request additional staff, but cannot hire anyone themselves. Managers are nonetheless involved in the recruitment process because the related activities usually take place at branches.[6] Importantly, branches that handle applications by prospective loan officers (usually the closest one to the applicant's place of residence) are not the branches to which loan officers will be posted: To avoid clientelism, field staff is not allowed to be posted within 40 km of their current place of residence, and there is regular staff rotation across branches. We document the quasi-random allocation of employees to branches and hence managers in Section 3.

[5] During the recruitment process, preference is given to higher-educated applicants. If possible, vacant manager positions are filled by internal promotions.

[6] Candidates for the job of the loan officer go through a written test, a group discussion led by a recruitment officer, and an interview with a panel consisting of the branch manager and two higher-level managers. The minimum qualification requirement for loan officers is a university degree. New loan officers are usually between 18 and 30 years old when they join the organization.

The onset of the Covid-19 pandemic in India

The Covid-19 pandemic was a large exogenous shock that demanded many adjustments in the operation of financial institutions, especially those with face-to-face business routines. The microfinance industry experienced pressure from two fronts during the onset of the pandemic. First, a nationwide Indian lockdown severely restricted movement for the entire month of April 2020. Many limitations remained in place until the end of May and impeded much of the fieldwork required for normal business routines, especially for collecting loan repayments.

Second, the industry suffered from another substantial external constraint: To cushion the effect of the lockdown restrictions for borrowers, the Reserve Bank of India (RBI) implemented a debt moratorium. This moratorium was in place from March 27 to the end of August 2020 and allowed financial institutions to grant their clients repayment pauses for the duration of the moratorium. The corresponding changes in cash flows created further uncertainty for microfinance institutions as their own refinancing loans were not covered by the moratorium. The time of the debt moratorium was hence characterized by increased pressure on the financial stability of the sector and disruptions to the normal modus operandi. This posed new challenges to the management of organizations in the microfinance sector, increasing work complexity and uncertainty.

Institutional implications

Two main challenges emerged for the management of the institution we study. First, the lockdown meant that it became more difficult to coordinate, support, and monitor the work of employees, especially during the period of work from home. Despite of advanced technical equipment of the organization, work from home was challenging to implement due to the nature of loan officers' tasks.[7] The organization implemented new measures to support and monitor employees' effort while they were working from home. For example, a new app was rolled out with which loan officers were asked to remotely contact their clients from their work smartphone, such that these efforts could be documented and distinguished from shirking. App data were also used to determine salary payments: To receive a full salary while not working at the branch, the app had to be used on work days.[8] The frontline managers were mainly responsible for the implementation of the additional measures to deal with the crisis: On top of their usual tasks, they had to supervise and motivate their employees to cope with the increase in complexity and

[7] In our sample, around 90% of employees self-reported that they continued working during movement restrictions in April and May, but only 24% stayed close to the branch office and worked on-site.

[8] The lower bound of the salary was 80% of the pre-pandemic base salary that every employee would receive in April and May.

to reorganize their work. Further, the managers had to oversee the implementation of the new systems for monitoring that would determine salary payments.

Second, the uncertainty around clients' livelihoods created by movement restrictions was exacerbated by a dry-up of other income sources, such as remittances, reducing borrowers repayment capacity even further. While the debt moratorium eased these pressures on the client side, the institution still had to find restructuring agreements for its own loans as these were not covered by the moratorium. The CEO summarizes the situation in an interview mid-May 2020 as follows: "*There is a fear amongst everybody. Even lenders like banks [...] are concerned about their asset quality, they are functioning at their one-third capacity, thereby making them a bit risk-averse during such times.*" Importantly, the debt moratorium severely affected the collected loan repayments. Borrowers making use of the moratorium and the remote working conditions implied that targets based on pre-pandemic standards became unattainable and the existing incentive structure was quickly put on hold in April 2020.

In theory, this increase in the complexity of the work makes it harder for rather transactional managers to lead effectively as more dimensions need to be monitored. Moreover, an important transactional management tool, the existing incentive structure, was suspended. Similarly, relational contracts are difficult to sustain during times of institutional uncertainty (Zehnder et al., 2017): Such contracts are grounded in the provision of future incentives without which the contract would break down. In times of crisis, when the financial viability of the employer is uncertain as in our setting, future incentives cannot be credibly promised. The prevalent uncertainty hence contributes to the complexity of the situation. All in all, the managers were in a situation that clearly classifies as more complex than before the crisis.

3. Data and Empirical Strategy

Data

Our data come from two main sources: administrative data from the organization about its employees' performance and self-reported data from surveying employees via online questionnaires. We restrict our sample population to branches in the two main states of operations, Uttar Pradesh and Madhya Pradesh, and exclude small branches with fewer than three loan officers and branches that do not offer the standard (group) loan product and hence operate differently.[9] From this set of branches, we randomly select 150. Branches are located in or close to the following agglomerations: Allahabad, Gwalior, Jabalpur, Jaipur, Lucknow, Moradabad,

[9]We made this decision when designing the experiment, i.e., prior to this study. By the time the study was implemented, three branches employed only two loan officers.

Saharanpur, and Varanasi. The monthly administrative data we obtained range from October 2019 to January 2021 and contain information on the number of clients handled, new clients acquired, as well as the financial performance of the loan portfolio, i.e., complete repayments as a fraction of outstanding repayments.

We complement these admin data with self-collected survey data. The baseline survey covers an assessment of the branch manager's leadership style and detailed information about employees' work style, and subjective measures of their effort. We also elicited basic demographic characteristics. The baseline survey was administered in December 2019 and January 2020, and, with slight alterations, repeated a year later as endline survey. In addition, we use data from a "Covid" survey that elicits workload, mental well-being, and perceived stress. This survey was administered each week from June 15 to July 26, 2020. Appendix B provides a detailed description of all variables.

We distributed online questionnaires by posting links in chat groups that employees can access via their work smartphones. A video recorded by two local research assistants introduced the study and explained procedures prior to the start of the baseline survey. Before accessing the survey, all employees provided written consent for study participation. This consent was renewed for each subsequent survey. To protect employees' privacy, it was made clear that neither individual-level nor branch-level responses would be shared with managers, and that only aggregate results would be communicated to headquarters. Employees took the survey in Hindi or English and could switch languages at any time. Due to concerns of our partner organization, we could not monetarily incentivize responses. Instead, employees received a certificate for their participation if they completed at least 80% of the surveys, and employees were allowed to fill in the survey during their regular work hours. To increase response rates, the local research assistants followed up with employees. Frontline managers were briefed about the study and also encouraged participation.[10] We split up surveys into several questionnaires to circumvent fatigue and increase response rates by making surveys very quick to fill in (less than five minutes on average). This came at the cost of varying sample sizes across variables, as not all respondents filled in all the links.

To build a coherent data set, we focus our main analyses on 585 employees who i) appear in the administrative data, ii) complete our baseline survey and hence consented to participating in the study, and iii) for whom we can construct a branch-level leadership score, as explained

[10]Response rates and attrition do not differ by leadership style (see Table A.10).

below.[11] These restrictions imply that we analyze data from 146 branches. Figure A.1 provides an overview of the sample, response rates, and the number of excluded employees for each survey.

The measure of transformational leadership

We measure each manager's leadership style using the Global Transformational Leadership questionnaire by Carless et al. (2000).[12] Each employee rates their manager on eight dimensions of transformational leadership. We aggregate these eight ratings to an equally-weighted transformational leadership score and normalize it to a range between zero and one. For each employee, we hence elicit their assessment of their leader, where leadership style ranges from purely transactional (the lowest possible score, zero) to purely transformational (the highest possible score, one).

We then define a manager's leadership style based on their pre-crisis leadership rating from all their subordinate employees. For this, we assign the average transformational leadership rating of all employees in the branch b to the manager, i.e., *Leader Style*$_b$. We then create a binary leadership style variable distinguishing more transformational and more transactional leadership styles: The variable *Transformational Leader*$_b$ is equal one if the branch manager's score is above the sample mean, and hence their leadership style can be classified as more transformational relative to other managers in our sample, and equal zero otherwise.[13] This is our preferred measure due to the ease of interpretation. In addition, we discuss results for the normalized, continuous measure of transformational leadership (*Leader Style*$_b$), a normalized and continuous leadership measure that excludes the employee's own rating and is equal to the average rating of the other $n-1$ employees in their branch b, *Leader Style exclusive*$_b$, and an alternative binary classification based on a median sample split (see Section 4.3). Results for these alternative measures of transformational leadership are similar.

Our main analysis relies on the pre-crisis transformational leadership rating since leadership perceptions during the crisis are likely correlated with our outcome measure of interest (Birkeland et al., 2017), which, in turn, are influenced by the Covid-19 pandemic and the debt moratorium

[11] Restriction iii) implies that at least one employee of the branch has to have answered the leadership questionnaire. Participants that are excluded for not meeting all three criteria are similar to our sample in terms of observable characteristics (see Table A.12).

[12] While we focus on transformational leadership style, we acknowledge that various other conceptualizations of leadership styles exist as laid out in Schermuly et al. (2022), for example. Even though the concept and measurement of transformational leadership has been criticized (see, e.g., van Knippenberg & Sitkin, 2013), it is still a cornerstone of leadership research (Siangchokyoo et al., 2020). We address some measurement-related criticism in Section 4.3 and discuss further shortcomings in the conclusion.

[13] Note that the manager's leadership rating is assigned to each employee in their branch, independent of whether the employee assessed the leadership style themselves. This allows us to maximize the number of observations.

in particular (Czura et al., 2022). In an exploratory analysis in Section 4.3, we discuss how leadership ratings have changed with the pandemic.

Quasi-random assignment of employees to branches

One concern in identifying a causal relationship between frontline managers' leadership style and the performance of their employees is the matching of managers and employees based on variables and characteristics unobservable to the econometrician. Employees may be systematically allocated to specific branches or managers, and different leadership styles may be better able to retain employees or they may attract different types of employees. As described above, the selection of employees and their assignment to branches is separated in our partner institution: While applications are handled by the closest branch, the newly hired employee will not work at this branch. Additionally, regular staff rotation is in place to further curb potential clientelism. These procedures suggest that the allocation of employees to branches is as good as random.

We empirically investigate this quasi-random allocation with three tests. First, we investigate the correlation between employee characteristics on the one hand, and branch and manager characteristics on the other hand. Out of the 36 correlations, only the correlations between employee age and the number of clients with individual loans and between employee age and manager gender are significant at the five percent level; and the correlations between the employee gender and manager age as well as employee education and the number of employees per branch are significant at the ten percent level (Table A.1). The number of significant correlations is similar to what would be expected for random assignment of employees to managers (3.6 at the ten percent level and 1.8 at the five percent level). Second, we test whether employee characteristics differ by their manager's leadership style. Table A.2 shows that there are no significant differences in employee characteristics of transformational and transactional managers (Column 3). This suggests that employees are not systematically assigned to specific managers. Lastly, we investigate whether managers' leadership style is correlated with employee turnover. If transformational leaders differed systematically in the retention of employees, this could result in selective matching between managers and employees. As set out in Table A.3, neither the normalized leadership score nor the binary leadership classification of transformational leadership correlate significantly more with turnover than what would be expected given random assignment. We conclude that employees are indeed quasi-randomly allocated to managers since employee characteristics are not correlated to branch and manager characteristics, and the leadership style does not influence the type of employees nor the likelihood of their retention.

Empirical strategy

Following Zehnder et al. (2017)'s proposition that the optimal leadership style depends on the environment and its complexity, we formulate the following hypothesis:

Hypothesis 1. A rather transformational leadership style of frontline managers is related to *better performance* with increased complexity during the Covid-19 pandemic.

Additionally, transformational leadership may mitigate the adverse impacts of the Covid-19 pandemic on mental health (see Rajkumar, 2020; Sibley et al., 2020; Banks & Xu, 2020; Davillas & Jones, 2021; Adams-Prassl et al., 2022). Based on the literature documenting positive effects on transformational leadership on mental well-being (see Braun et al., 2013; Samad et al., 2022; Sosik & Godshalk, 2000; Liu et al., 2010; Kloutsiniotis et al., 2022), we formulate the following hypothesis:

Hypothesis 2. A rather transformational leadership style of frontline managers is related to *better mental well-being* during the Covid-19 pandemic.

To assess the role of transformational leadership during crises, we observe how employees' individual performance, their work style, and their mental well-being change in response to the crisis. We differentiate these trajectories by the leadership styles of employees' managers. For outcomes that we observe before and during the crisis, we use a difference-in-differences estimation, whereas outcomes observed during the crisis are assessed as simple differences. We lay out our empirical strategy for the following three outcome categories based on our available data: monthly performance of employees as documented by the administrative data, work styles captured in the baseline and endline survey data, and mental well-being measured throughout June and July.

Our first estimation model differentiates transactional vs. transformational leaders, before and during the crisis. For the monthly performance data as well as the baseline and endline survey data, we estimate differential changes in response to the crisis by the leadership style of the responsible manager as follows:

$$y_{ibt} = \alpha + \beta_1 \, Transformational_b + \beta_2 \, Crisis_t, + \beta_3 \, Transformational_b \times Crisis_t + \gamma_t + \chi_i + \epsilon_{ibt} \tag{1}$$

where y_{ibt} is the outcome variable for employee i in branch b and at time t; $Transformational_b$ is the manager's leadership style measure in branch b; $Crisis_t$ is an indicator for the observation being from during the pandemic; γ_t are month fixed effects and only included if applicable, χ_i is a vector of employee control variables and ϵ_{ibt} is the error term. The time dimension t is defined

as month $t = m$ for the monthly performance data or as a binary variable distinguishing survey data from the the baseline ($t = 0$) or endline ($t = 1$). Consequently, $Crisis_t$ indicates any month after March 2020 for monthly performance data and any observation from the endline survey for the survey data.

The monthly performance data further allow us to examine different levels of crisis intensity. In particular, we take into account the especially strenuous time of the debt moratorium and distinguish three time periods: First, normal times, i.e., October 2019 to March 2020, crisis with higher uncertainty from April 2020 to August 2020 (during the moratorium), and crisis with lower uncertainty from September 2020 to January 2021 (after the moratorium). We estimate the following regression equation:

$$\begin{aligned} y_{ibm} =& \alpha + \beta_1 Transformational_b + \beta_2 Transformational_b \times CrisisHigh_m \\ &+ \beta_3 Transformational_b \times CrisisLow_m + \gamma_m + \chi_i + \epsilon_{ibm} \end{aligned} \tag{2}$$

where y_{ibm} is the outcome variable for employee i in branch b and month m; $CrisisHigh_m$ is an indicator for the observation being from the period April to August 2020; $CrisisLow_m$ is an indicator for the observation being from the period September to January 2021; $Transformational_b$ is the manager's leadership style measure in branch b; γ_m are month fixed effects, χ_i is a vector of employee control variables and ϵ_{ibm} is the error term.

To assess the relationship of transformational leadership and the psychological state of employees during the heyday of the crisis, we use data from the Covid survey administered throughout June and July. We estimate:

$$y_{ibt} = \alpha + \beta Transformational_b \times Survey_t + \epsilon_{ibt} \tag{3}$$

where $Survey_t$ indicates week t of the survey and runs from one to six. $Transformational_b$ follows the above definition.

4. Results

4.1. Decriptive statistics

Sample

Our sample consists of 146 branches, and we have detailed information on 585 employees and 144 managers. We present summary statistics in Table 1. The branches have on average four employees and they serve 1918 clients with group loans and 185 clients with individual loans.

The frontline managers are on average 30 years old, nearly all of them are male and have a college degree (98% each). As of December 2019, they have worked for over six years at the organization. Employees are on average 26 years old, also overwhelmingly male (91%), and most have a college degree (84%). Around half of them are married, and they have worked around 2.5 years at the organization and 1.8 years at the current branch, as of December 2019. During the period of our study, from October 2019 to January 2021, employees serve on average 500 clients with group loans and 47 with individual loans.

Leadership

Table A.4 sets out the summary statistics for our leadership measures as indicated by each employee. The overall score shows that employees rate their frontline managers' leadership style as more transformational (0.7 on a scale from zero to one), with little differences across the individual components of the overall score. Sixty-three percent of the managers are classified as transformational leaders according to our binary definition based on the sample mean.[14]

4.2. Main Analysis

Performance

Before the pandemic, from October 2019 to March 2020, each employee served on average 556 clients in total, 505 group and 51 individual clients. Employees acquired 14 new clients per month and collected 92% of the outstanding repayments of all their clients. In this period, transformational leadership ($Leader\ Style_b$) is negatively correlated with the overall number of borrowers (see Table 2, Column 1), which is driven by the negative correlation between transformational leadership and the number of group clients (Column 2), the predominant type of clients. In contrast, employees with more transformational leaders serve more individual clients (Column 3). These employees acquire fewer new clients per month (Column 4) and have worse financial performance as measured by the collection percentage for loan repayment (Column 5). The latter two performance measures may be related to the shifted focus on individual clients, as these clients are more difficult to acquire and their repayment performance is more volatile.

Our main analysis focuses on the binary leadership classification, i.e., more transformational as compared to more transactional leadership styles. Table 3 presents estimated coefficients from Equation 1 in Panel A and from Equation 2 in Panel B. The results confirm the negative

[14] In Section 4.3 we discuss that results are qualitatively similar when we use the sample median, according to which 53% of managers would be classified as transformational. We also present results for the additional leadership measures, the continuous rating and the continuous one that excludes the employee's own rating.

correlation between leadership style and performance during normal times. Employees of more transformational frontline managers serve 19.4 fewer clients with group loans (-3.7%) and 8.6 more clients with individual loans (17.7%). They acquire 1.5 fewer new clients each month (-10.2%) and their financial performance is around 2.7 percentage points (-2.9%) lower. However, during the crisis, when the Covid-19 pandemic imposed restrictions on employees' work environment, more transformational managers induced better performance in all the dimensions in which their employees were previously underperforming, with the exception of client acquisition. This is true for the entire crisis period (April 2020 – January 2021) with increased complexity, in line with our Hypothesis 1. However, we do not see a difference between the two crisis periods of higher uncertainty (during the moratorium) and lower uncertainty. For example, employees made up their pre-pandemic shortfall in financial performance completely during the overall crisis period (+3.4 percentage points, or 3.7%). This improvement in performance is not only visible during the time of higher uncertainty (+2.7 percentage points, or 2.9%) but also sustained in the time of lower uncertainty (+4.2 percentage points, or 4.5% compared to the pre-crisis period). This pattern is the same for all performance measures: We find no difference in employees' performance with more transformational leaders between the periods of higher and lower uncertainty. These results suggest that – while clearly important for the industry – the moratorium was not the only determinant of complexity in this crisis.

Better-performing employees of more transactional leaders in pre-crisis times and a reversal in times of crisis is in line with Zehnder et al. (2017) who argue that the optimal leadership style depends on the environment, and in particular, its complexity. Before the crisis, an established routine, clear goals, and a corresponding incentive structure to reward individual performance were in place.[15] In this clearly defined setting, more transactional leaders were better able to stimulate performance. In contrast, during the crisis, complexity of the work increased, the incentive structure in place was suspended, and more transformational managers led employees to better performance. Consistent with this interpretation, Figure A.2 illustrates that incentives were only paid before the onset of the pandemic and were already lower than usual in March 2020.[16]

[15] Note that individual loan clients are a rather new innovation in the sector that traditionally relied exclusively on group loans. In addition, the acquisition of individual clients is ambiguous for bonus payments. While the acquisition of individual clients can yield a piece-rate bonus payment, this bonus is contingent on sufficiently strong financial performance, which, in turn, may be dampened by individual clients.

[16] Related to the better performance in many dimensions, the average bonus of employees with more transactional leaders is slightly larger in the pre-crisis period (1495 vs. 1408 rupees, t-test, p=0.07).

Work styles

A more transformational leadership style is positively associated with pre-pandemic work styles, as shown in Table 4: Employees with more transformational managers better plan their workday, and they exhibit more effort. When asked about their hours worked, the calculated working time suggests they work significantly less time (71 minutes per day, or -10.2%, see Column 3). However, when asked about subjective assessments of working time, such as often working overtime, the leadership style of the manager does not appear to matter. This divergence may occur due to several factors. First, despite working fewer hours, employees with more transformational leaders may feel they spend a lot of time at work, for example, because they exert much effort or work more efficiently and get more work done. Second, the questions around objective working time are less prone to social desirability bias than those in the subjective working time index. Given that characteristics of employees with rather transformational leaders are comparable to those with rather transactional leaders (see Table A.2), one could assume that social desirability is equally strong in both groups of employees. This may explain the working time patterns. Lastly, we note that the two measures differ in their sensitivity: while objective working time varies by minute, subjective working time combines four statements that are rated on a five-point scale each.

The crisis did not significantly impact employees' planning or effort, but it is associated with a substantial reduction in working time by 78 minutes per day (-11.2%). This may be linked to restrictions complicating or preventing regular work tasks. While new approaches to keeping client contact were introduced that probably increased the workload if they were actually implemented, monitoring employees was more difficult and the incentive scheme was paused, such that more transactional leaders might have had a harder time enforcing pre-crisis working hours. In contrast, employees of rather transformational managers exhibit a stable provision of work time. Together with the higher performance regarding the number of clients served and the acquisition of new clients, we interpret these findings as employees of more transformational managers displaying higher effort and motivation to keep client contact during the crisis despite the disruptions to their operations.

Mental well-being

We measure mental well-being through subjective well-being and perceived stress in six consecutive weeks in June and July 2020. Figure 1 shows how subjective well-being (Panel A) and perceived stress (Panel B) developed over this time period for employees of more transactional vs. more transformational managers. The patterns appear to suggest better mental well-being

for employees of more transformational managers, but we lack the statistical power to distinguish the subjective well-being and perceived stress scores of these two types of employees within a given survey week.

When pooling the data across the six weeks to estimate Equation 3, we find that subjective well-being is 0.34 standard deviations higher and perceived stress is 0.13 standard deviations lower if employees work with a more transformational manager (Table 5, Columns 1 and 4). These results are in line with our Hypothesis 2. In addition, we exploit the panel structure of this data to examine whether mental well-being changes differentially by leadership style during the six weeks under consideration.[17] We do not see differential changes in the mental well-being measures for different leadership styles, neither for subjective well-being (Columns 2 and 3), nor for perceived stress (Columns 5 and 6).

Summary

Our findings suggest that benefits of different leadership styles can depend on the (work) environment. Pre-crisis, we find that employees of more transactional leaders perform better on most quantitative performance measures that determine bonus payments. However, it appears that these employees spend more time on achieving these outcomes, potentially related to lower planning and effort provision. In contrast, employees of transformational leaders appear to work fewer hours, but plan more and provide more effort. Nonetheless, they only outperform employees of transactional leaders in the number of individual clients they serve. Overall, it appears that a more transactional leadership style is well-suited to help employees achieve their targets in normal times and with clear incentive structures in place.

During the crisis, with an increasingly complex environment and regular incentive structures on hold, rather transformational leaders induce longer work hours and better performance, closing pre-crisis performance gaps. Given the high complexity of the work, one might have worried that this happened to the detriment of mental well-being. However, employees of more transformational leaders fare better during the crisis, both in terms of subjective well-being and perceived stress. In sum, it seems that a more transformational leadership style is well-suited to navigate the complexities arising from the crisis.

These findings are not only in line with the literature on transformative leadership, but also with studies from the broader leadership literature. For example, in their relational incentives theory, Gallus et al. (2022) propose that the effect of incentives depends on the relationship between the manager and the employee. Specifically, high-powered monetary incentives might

[17] 412 employees answer at least two of these surveys and are included in this analysis.

work well in transactional relationships, whereas transformational leaders effectively employ non-monetary incentives such as recognition. In addition, Gibbons et al. (2021) document the value of relational contracts (that are arguably more pronounced with transformational leadership) when unforeseen changes – such as a crisis – occur.

4.3. Additional Analysis

Alternative specifications of the leadership measure

Our results are based on the binary leadership measure that classifies all managers with a leadership score above the sample mean as more transformational and the others as more transformational. We assess whether our results are robust to alternative specifications of transformational leadership style.

For performance outcomes, Table A.5 and Table A.6 replicate Table 3, where in each table, Panel A displays results for the normalized leadership score, Panel B presents results for the score that excludes the employee's own rating, and Panel C shows results for a split based on the median. In all specifications, we replicate the pre-crisis difference between more transformational and more transactional leaders. Results for the overall crisis period (Table A.5) and the two crisis periods distinguished by their level of intensity (Table A.6) are qualitatively similar, but some differ in their significance level. Similarly, Table A.7 replicates Table 4 for the work styles with comparable results. Lastly, Table A.8 presents replication results of mental well-being effects (cf. Table 5) that confirm the positive effect of transformational leadership on subjective well-being of employees during times of crisis. Overall, results are robust to different operationalizations of the transformational leadership measure.

Change in (perceived) leadership style

A nascent literature suggests that leadership styles may change in crisis and observed leader behavior tends to become more directive (Stoker et al., 2019; Garretsen et al., 2022). Both these studies rely on repeated cross-sectional samples of managers, i.e., they describe how different leaders behave in different situations. In contrast, Dóci & Hofmans (2015) assess within-person changes in transformational leadership in a lab experiment with 37 student groups composed of one randomly assigned leader and two workers. Each group has to solve different tasks together. The student in the role of the leader is asked to direct the meeting and receives a bonus payment if the group finds the best solution. The tasks differ in their levels of complexity, and for each task, the workers rate their leader. The authors find that more complex tasks lead to a reduction in transformational leadership ratings. This stands in contrast to a large strand of literature

which suggests that transformational leadership style may be relatively stable over time as it correlates with a leader's personality (e.g., Bono & Judge, 2004) and their traits (e.g., Barling et al., 2000; Resick et al., 2009; Peterson et al., 2009).

These findings can be reconciled by considering not only the leader's behavior but also the employees' *perception* of their leader, as both may shape the leadership assessment. The importance of perceptions is highlighted by studies suggesting that leadership ratings are influenced by employees' mental conditions. For example, Birkeland et al. (2017) study how employees rate their leaders in the aftermath of a terrorist attack at the workplace. They find that employees with high levels of post-traumatic stress perceive their leaders as less supportive, while the overall perceptions of leadership were remarkably stable. The influence of employees' perceptions is likely to play a larger role in leadership measures that request ratings on less tangible dimensions rather than specific behaviors. Both Dóci & Hofmans (2015)'s and our leadership measure are based on Carless et al. (2000). The different dimensions in which employees rate their leaders leave ample room for subjective interpretations, e.g., to what extent leaders instill pride and respect, inspire own competence, or foster trust. Hence, changes in leadership measures can be driven both by an actual change in leader behavior and a change in the employees' perception of leadership depending on their own mental constitution.

In our main analyses, we circumvent this issue by relying on pre-pandemic ratings of transformational leadership to allow for as much exogeneity as possible among our dependent and independent variables. In this subsection, we explicitly analyze how leadership ratings have changed during the pandemic, with the above caveats in mind. Table A.9 sets out how the transformational leadership measure did change over the course of the pandemic. Column 1 shows that the crisis did not affect the binary leadership rating (Column 1). However, the continuous leadership score decreased from 70% to 61% (Column 2).[18] Interestingly, the decline in the leadership score appears to be driven by frontline managers who were classified as more transformational pre-crisis (compare Columns 3 and 4 that display changes for rather transactional and rather transformational leaders, respectively). Under the assumption that better mental well-being is positively related to more transformational ratings, the results, in combination with our finding that employees of more transformational leaders have better subjective well-being would suggest that changes in leadership ratings are driven by managers' behavior rather than employees' perceptions. However, given that our mental health data are from June

[18]The difference between Columns 1 and 2 can be explained by the fact that the binary classification relies on the respective sample mean. This implies that if scores dropped uniformly across all managers, their relative ranking would remain the same.

and July and the second leadership rating from December 2020, this remains speculation and an open question for future research.

4.4. Robustness

While the administrative data are complete for the employees who work at the organization throughout the period of our study, the survey data may suffer from attrition or non-response. We hence briefly address these concerns below.

As we survey employees between December 2019 and December 2020, one might be concerned about attrition, in particular its relationship with leadership. Figure A.1 shows the flow of respondents in and out of our sample. More importantly, results in Table A.3 confirm that leadership does not predict turnover, neither before (Columns 1 and 2) nor during the crisis (Columns 3 and 4). Similarly, Table A.10 shows that survey attrition and turnover rates do not differ for transformational vs. transactional leaders ($p = 0.36$ for attrition and $p = 0.34$) for turnover. We conclude that differential attrition is unlikely to be an issue.

We did not force responses to our survey questions. Employees could hence skip questions that they would not like to answer. This might be problematic if employees skipped specific leadership questions rather than, e.g., answering them negatively. Of the 596 employees who answered the leadership questionnaire in December 2019, 101 individuals (16.9%) skipped at least one out of the eight questions. In Table A.11, we first test whether those who skipped at least one item rate their leaders differently. While we find a difference for one item, overall leadership ratings are not affected.[19] Second, we test whether observable employee characteristics are different for those who skip at least one item. Results show that skipping is not systematically related to observables. We conclude that the impact of item non-response on the leadership measure is likely negligible.

5. Conclusion

We exploit quasi-random assignment of employees to frontline managers to study the effect of transformational leadership on employees' outcomes. Outcomes are measured with longitudinal administrative and panel survey data. We find that employees with more transactional leaders perform better pre-crisis in outcomes that the organization cares about and incentivizes: They have a higher financial performance and acquire more clients. In contrast, employees with more transformational leaders engage more in planning activities and exert higher effort. During the

[19] Those who skip at least one item of the eight leadership dimensions, rate their managers lower on being 'inspiring by being competent'. The differences are statistically significant at the 5% level.

crisis, in a period of high uncertainty, in which previous incentive schemes were paused, employees under more transformational leaders have better financial performance, they acquire more new clients, and spend more time working. Nonetheless, these employees appear to have better mental well-being. Once some of the uncertainty resolves, employees with more transformational leaders still outperform their peers with rather transactional leaders.

The main take-away from our study is that transformational managers better lead employees in times of crisis with respect to performance and mental well-being, in line with the complexity argument by Zehnder et al. (2017). While advancing the existing literature, we see two limitations of our study that offer scope for future research. First, our study uses a leadership measure based on employees' perceptions. While this is common in the literature, perceptions might be biased by factors beyond the leadership of the manager, such as external events that influence the emotional stability of employees. We try to address this in the following ways: On the one hand, we show that our results are robust to excluding own perceptions from the measure. On the other hand, we explicitly, albeit exploratorily, investigate how leadership ratings change with the Covid-19 pandemic. Here, we cannot disentangle a change in perceptions from a change in leadership behavior. This highlights the need for complementary future studies that explicitly investigate leadership behaviors, as also argued by Stock et al. (2022) and implemented by e.g., Bandiera et al. (2020). More work is needed to advance the understanding of which behaviors result into which assessment by employees, and how these ultimately relate to employees' outcomes. For example, interventions that are targeted at improving productivity may backfire if they change perceptions of leadership (Reiff et al., 2022).

Second, we take the leadership style as given and analyze its effects on employees' outcomes under different externally influenced situations. Our findings suggest that the benefits of leadership styles depend on the (work) environment. While this is in line with the idea that the complexity of the environment matters (Dóci & Hofmans, 2015; Zehnder et al., 2017), we cannot disentangle which dimension of complexity may be driving our results. Too many factors have changed with the Covid-19 pandemic: uncertainty skyrocketed, established monetary incentives for employees became inapplicable, and the way and location of work changed in response to mobility restrictions and the debt moratorium. In addition to these institutional changes to the job, employees (and managers) were likely also affected in other dimensions, as the Covid-19 pandemic took its toll on health, social, and economic conditions. We assume that these other effects are uncorrelated with leadership styles, but we cannot empirically assess this. More generally, Covid-19 was an exceptional and unexpected crisis. While 'smaller' crisis might see less

pronounced effects, an increase in complexity is inherent in all types of crises. In this regard, we believe that our results are informative for other contexts as well.

While our field study advances the existing literature on transformational leadership in normal times and in times of crisis, it should be complemented with controlled studies that vary, for example, leadership behaviors, complexity, uncertainty, and incentives systematically and independently of each other to disentangle effects and learn more about how each component relates to the resilience of employees.

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Tables and Figures

Table 1: Summary Statistics for Branches, Managers, and Employees

	Mean (1)	SD (2)
Panel A: Branch Characteristics		
Number of Employees	4	1
Number of Group Clients	1918	849
Number of Individual Clients	185	120
Panel B: Manager Characteristics		
Age	30	4
Male %	98	11
College %	98	12
Seniority at Company	75	29
Panel C: Employee Characteristics		
Age	26	3
Male %	91	28
College %	85	36
Married %	53	50
Seniority at Branch	22	31
Seniority at Company	32	40
Number of Group Clients	500	243
Number of Individual Clients	47	55

Notes: Data for the branch characteristics are from October 2019 to January 2021. Data for the manager and employee characteristics are from December 2019. N Employees: 585; N Branches: 146; N Managers: 144. Summary statistics on Branch, Manager, and Employee characteristics for employees who answered our baseline survey. *Seniority at company* captures the number of working months in the company as of December 2019, and *Seniority at branch* captures the number of working months in the current branch as of December 2019.

Table 2: Correlation between Leadership and Performance before Crisis

	Number of Clients				
	Total	Group	Individual	Client Acquisition	Financial Performance
	(1)	(2)	(3)	(4)	(5)
Transformational Leadership Score (0-1)	-0.0306*	-0.0448***	0.0464***	-0.0345**	-0.0528***
Mean of Dep. Var.	556.3707	505.1247	51.2459	13.8187	92.1903
SD of Dep. Var.	247.1160	233.2109	62.6061	23.2564	22.3308
Observations	3375	3375	3375	3375	3375
N Employees	585	585	585	585	585
N Branches	146	146	146	146	146

Notes: The table shows the correlation between the baseline leadership score (at the branch level) and employee performance before the crisis from October 2019 to March 2020. *Transformational Leadership Score (0-1)* captures the manager's average leadership rating elicited using the *Global Transformational Leadership (GTL)* questionnaire from all employees within the branch, normalized to a range from 0 to 1. The variable *Total* refers to the total number of clients that employees handle, *Group* and *Individual* to the total number of group and individual clients, respectively. The variable *Client Acquisition* shows the number of clients acquired each month, net of settled clients. *Financial Performance* is the percentage of complete repayments as a fraction of outstanding repayment. $^{*}p < 0.1$,$^{**}p < 0.05$,$^{***}p < 0.01$.

Table 3: Individual Performance and Transformational Leadership
+ Month FE and Controls

	Number of Clients				
	Total	Group	Individual	Client Acquisition	Financial Performance
	(1)	(2)	(3)	(4)	(5)
Panel A. Crisis = Apr20-Jan21					
Transformational	-10.8322	-19.3881**	8.5559***	-1.4809**	-2.7049***
	(8.2042)	(7.7975)	(2.0020)	(0.7521)	(0.7401)
Transformational*Crisis	22.4367**	21.2628**	1.1739	1.0992	3.4471***
	(11.0793)	(10.5732)	(2.4081)	(0.8042)	(0.9850)
R^2	0.0580	0.0538	0.0333	0.4141	0.7493
p-value Before=Crisis	0.0650	0.0178	0.0798	0.0920	0.0001
Panel B. Crisis High=Apr20-Aug20, Crisis Low=Sep20-Jan21					
Transformational	-10.8322	-19.3883**	8.5560***	-1.4808**	-2.7051***
	(8.2047)	(7.7980)	(2.0021)	(0.7522)	(0.7401)
Transformational*Crisis High	22.2192*	20.3804*	1.8389	1.5534*	2.7067***
	(12.7169)	(12.1965)	(2.7698)	(0.7983)	(0.7791)
Transformational*Crisis Low	22.6669	22.1971*	0.4697	0.6182	4.2310***
	(13.9940)	(13.3424)	(2.7540)	(0.9105)	(1.5056)
R^2	0.0580	0.0538	0.0333	0.4142	0.7494
p-value Before=Crisis High	0.0833	0.0290	0.1294	0.0471	0.0003
p-value Before=Crisis Low	0.0931	0.0285	0.0675	0.1866	0.0005
p-value Crisis High=Crisis Low	0.9760	0.8990	0.6130	0.1060	0.2524
Mean of Dep. Var. (Control)	563.0940	514.7390	48.3550	14.5660	93.8821
Observations	8255	8255	8255	8255	8255
N Employees	585	585	585	585	585
N Branches	146	146	146	146	146

Notes: Data from October 2019 to January 2021. Dependent variables: The variable *Total* refers to the total number of clients that employees handle, *Group* and *Individual* to the total number of group and individual clients, respectively. The variable *Client Acquisition* shows the number of clients acquired each month, net of settled clients. *Financial Performance* is the percentage of complete repayments as a fraction of outstanding repayment. Independent variables: *Transformational* is the binary variable $Transformational\ Leader_b$ which indicates whether the manager's average leadership rating from all employees within the branch is above the sample mean. *Crisis* in Panel A refers to the period during the pandemic, April 2020 to January 2021. In Panel B *Before* refers to the six months before the debt moratorium (from October 2019 to March 2020), *Crisis High* to the period during the moratorium, April to August 2020, and *Crisis Low* to the period after the moratorium, September 2020 to January 2021. Mean of Dep. Var. (Control) reports the mean of the outcome variable for the reference group, i.e., for transactional leaders before the crisis. The table includes month-year fixed effects and controls in all regressions. *Controls* include employee characteristics (age, marital status, college degree, seniority at the company, and seniority at the branch). Robust standard errors are used in all regressions. $^{*}p < 0.1$,$^{**}p < 0.05$,$^{***}p < 0.01$.

Table 4: Work Styles and Transformational Leadership
(Dec19 vs. Dec20)
+ Controls

	Planning	Effort	Objective Time	Subjective Time
	(1)	(2)	(3)	(4)
Transformational	0.0511***	0.0452***	-70.6099***	0.0318
	(0.0193)	(0.0164)	(21.5505)	(0.0238)
Transformational*Crisis	-0.0158	-0.0344	96.6272***	-0.0412
	(0.0273)	(0.0267)	(32.1478)	(0.0347)
Crisis	-0.0143	-0.0049	-78.4809***	0.0198
	(0.0214)	(0.0216)	(26.3739)	(0.0280)
Mean of Dep. Var. (Control)	0.6371	0.7219	699.3846	0.7521
Observations	574	566	585	583
N Employees	301	301	301	301
N Branches	125	125	125	125
R^2	0.0279	0.0378	0.0349	0.0201
p-value Transformational (Overall)	0.0692	0.6081	0.2833	0.7127
p-value Crisis (Overall)	0.0759	0.0122	0.3240	0.2994

Notes: Data from December 2019 and December 2020. Dependent variables: *Planning* is a normalized index capturing how well employees plan their work (e.g., using reminders and checklists, and following through with their plans). *Effort* is a normalized index capturing how much effort employees exert on main work dimensions (disbursement, repayment, and acquisition). *Objective (Working) Time* captures the self-reported working time in minutes during a normal day. *Subjective (Working) Time* is a normalized index capturing the subjectively perceived working time of employees (e.g., often working overtime or skipping lunches). Independent variables: *Transformational* is the binary variable $Transformational\ Leader_b$ which indicates whether the manager's average leadership rating from all employees within the branch is above the sample mean. *Crisis* is an indicator variable for the period during the pandemic, December 2020. Mean of Dep. Var. (Control) reports the mean of the outcome variable for the reference group, i.e., for transactional leaders in December 2019. *Controls* include employee characteristics (age, marital status, college degree, seniority at the company, and seniority at the branch). Robust standard errors are used in all regressions. $^{*}p < 0.1,^{**}p < 0.05,^{***}p < 0.01$.

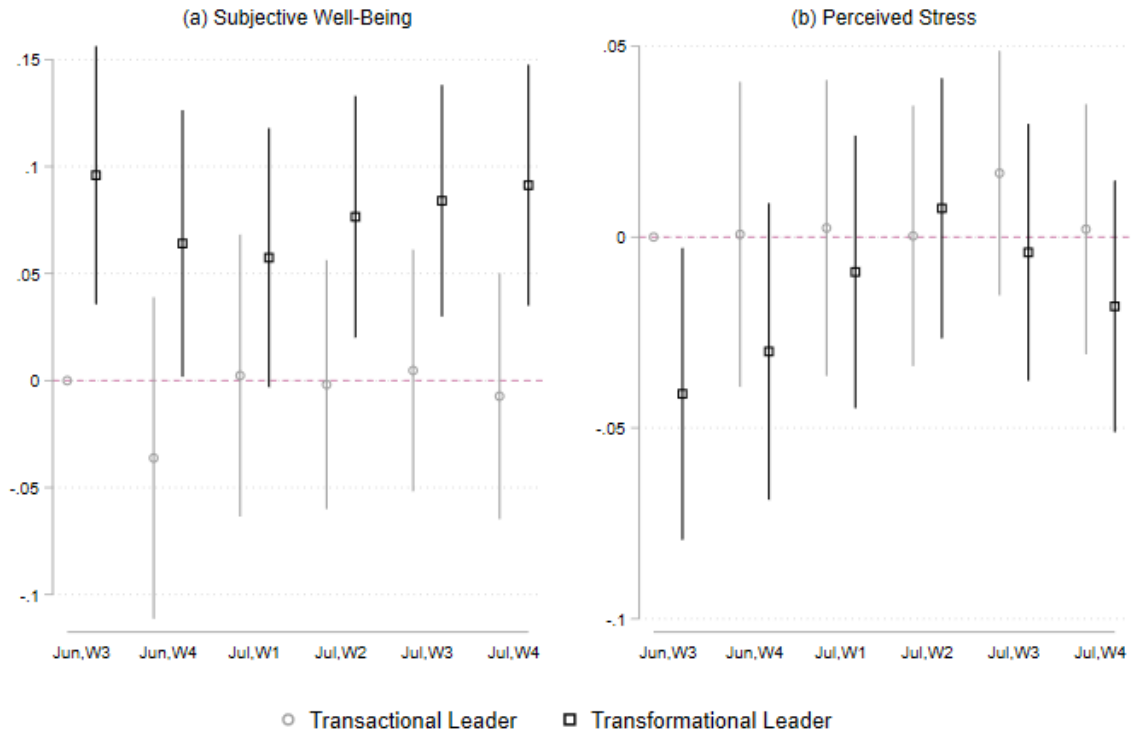

Figure 1: Mental Well-Being in June and July 2020 by Transformational Leadership

Notes: Data from June-July 2020. Mental well-being measured in the Covid survey in six consecutive weeks from the third week of June to the fourth week of July 2020 as (a) *Subjective Well-Being* elicited through the self-reported questionnaire *WHO-5 Well-Being Index* and normalized to a range from 0 to 1; and (b) *Perceived Stress* elicited through the self-reported questionnaire *Perceived Stress Scale 4 (PSS-4)* and normalized to a range from 0 to 1. Graphs show OLS estimates of the equation $y_{it} = \alpha + \beta\, i.Survey\,round_t * Transformational\ Leader_b + \epsilon_{it}$, with robust standard errors. The vertical lines show 95% confidence intervals. $Transformational\ Leader_b$ indicates whether the manager's average leadership rating from all employees within the branch is above the sample mean.

Table 5: Mental Well-Being and Transformational Leadership
(Jun/Jul20)

	Subjective Well-Being			Perceived Stress		
	z-Score	Increase (0-1)	Decrease (0-1)	z-Score	Increase (0-1)	Decrease (0-1)
	(1)	(2)	(3)	(4)	(5)	(6)
Transformational	0.3483***	0.0306	-0.0244	-0.1328***	0.0343	0.0233
	(0.0501)	(0.0283)	(0.0288)	(0.0486)	(0.0272)	(0.0275)
Mean of Dep. Var (Control)	-0.1755	0.4086	0.4381	0.0652	0.3671	0.3736
Observations	1741	412	412	1741	412	412
N Employees	453	412	412	453	412	412
N Branches	143	140	140	143	140	140
R^2	0.0313	0.0028	0.0018	0.0096	0.0038	0.0017
Wave FE	✓			✓		

Notes: Data from June-July 2020. Dependent variables: *Subjective well-being* is elicited through the self-reported questionnaire *WHO-5 Well-Being Index*. *Perceived stress* is elicited through the self-reported questionnaire *Perceived Stress Scale 4 (PSS-4)*. The variable *z-Score* is a standardized score, which is calculated by subtracting the sample mean and dividing by the sample standard deviation. The variable *Increase (0-1)* captures the fraction of increases among all fluctuations during the survey period. The variable *Decrease (0-1)* captures the fraction of decreases among all fluctuations during the survey period. Independent variable: *Transformational* is the binary variable $Transformational\ Leader_b$ which indicates whether the manager's average leadership rating from all employees within the branch is above the sample mean. Mean of Dep. Var. (Control) reports the mean of the outcome variable for the reference group, i.e., for transactional leaders. Robust standard errors are used in all regressions. $^{*}p < 0.1, ^{**}p < 0.05, ^{***}p < 0.01$.

Appendix

A. Additional Tables and Figures

Table A.1: Correlation between Employees, Branches, and Managers

	Employee Characteristics					
	Age (1)	Male % (2)	College % (3)	Married % (4)	Seniority at Branch (5)	Seniority at Company (6)
Panel A: Branch Characteristics						
Number of Employees	0.0313	-0.1292	0.1512*	0.0441	-0.0715	-0.0483
Number of Group Clients	-0.0389	-0.0275	0.0076	0.0788	-0.0426	-0.0901
Number of Individual Clients	-0.1669**	0.0509	-0.0555	0.0073	0.0210	0.0912
Panel B: Manager Characteristics						
Age	0.1255	-0.1637**	-0.0584	0.1027	0.0189	-0.0306
Male %	-0.1503*	0.0821	-0.0008	-0.0716	0.0046	0.0057
College %	0.0768	-0.0479	0.0657	-0.0415	-0.0000	-0.0032
Seniority at Company	0.0770	-0.0609	-0.0421	0.1234	-0.0171	0.0236
Transformational Leadership Score (0-1)	-0.1093	0.0553	-0.0689	0.0211	0.0546	-0.0402
Transformational Leadership Score (exclude)	-0.1086	0.0547	-0.0675	0.0214	0.0547	-0.0398

Notes: The table shows pairwise correlations between employee characteristics and characteristics of the branch and the manager in Panel A and B, respectively. N Employees: 585; N Branches: 146; N Managers: 144. Data for the branch characteristics are from October 2019 to January 2021. Data for the manager and employee characteristics are from December 2019. *Transformational Leadership Score (0-1)* captures the manager's average leadership rating from all employees within the branch, normalized to a range from 0 to 1. *Transformational Leadership Score (exclude)* captures the manager's average leadership rating from all other employees (excluding own rating of the employee) within the branch, normalized to a range from 0 to 1. $^{*}p < 0.1$,$^{**}p < 0.05$,$^{***}p < 0.01$.

Table A.2: Employee Characteristics by Transformational Leadership

	Transformational Leadership (1)	Transactional Leadership (2)	Test (1)=(2) p-value (3)
Age	26.11	26.17	0.8307
	[3.64]	[3.38]	
Married %	0.52	0.53	0.7471
	[0.50]	[0.50]	
Male %	0.91	0.91	0.8690
	[0.28]	[0.29]	
College %	0.84	0.85	0.7179
	[0.37]	[0.36]	
Seniority at company (in months)	30.33	36.21	0.1192
	[39.74]	[50.35]	
Seniority at branch (in months)	21.64	21.98	0.9026
	[35.80]	[29.10]	
N Employees	355	230	
N Branches	92	54	

Notes: Data from December 2019. The table reports the mean and standard deviation (in square brackets) of the employee characteristics. Column (1) reports the statistics for employees who have a more transformational leader, and Column (2) reports the statistics for employees who have a more transactional leader. Column (3) reports the p-value of the t-test that both means are the same. *Transformational Leadership* is an indicator if the manager's average leadership rating from all employees within the branch is above the sample mean. *Transactional Leadership* is an indicator if the manager's average leadership rating from all employees within the branch is below the sample mean.

Table A.3: Correlation between Leadership and Turnover

	Before Crisis		During Crisis	
	Turnover Absolute (1)	Turnover Fraction (2)	Turnover Absolute (3)	Turnover Fraction (4)
Transformational Leadership Score (0-1)	-0.0016	-0.0549	-0.1125	-0.0736
Transformational Leadership (0/1)	0.0927	0.0663	-0.1579*	-0.1115
Mean of Dep. Var.	0.3600	0.0918	0.7133	0.1745
SD of Dep. Var.	0.6051	0.1568	0.8773	0.2113

Notes: The table shows the correlation between baseline leadership score and turnover at the branch level before the crisis (October 2019 to March 2020) and during the crisis (April 2020 to January 2021). N Branches: 146. The variable *Turnover Absolute* represents the number of employees who answered the baseline survey and left the branch during the period of interest. The variable *Turnover Fraction* represents the fraction of the number of leaving employees to the total number of employees at the branch. $^{*}p < 0.1$,$^{**}p < 0.05$,$^{***}p < 0.01$.

Table A.4: Summary Statistics for Leadership Ratings

	Mean, [SD]
Transformational Leadership Score (0-1)	0.70
	[0.14]
Transformational Leadership Score (exclude own rating)	0.70
	[0.14]
Transformational Leadership (0/1, above sample mean)	0.63
	[0.48]
Transformational Leadership (0/1, above sample median)	0.53
	[0.50]
Leadership Components	
Clear and positive vision	0.71
	[0.15]
Support personal developments	0.68
	[0.16]
Encouragement and recognition	0.70
	[0.16]
Foster trust and cooperation	0.72
	[0.15]
Encourage innovative thinking	0.71
	[0.15]
Clear values and practices	0.71
	[0.16]
Instill pride and respect	0.70
	[0.16]
Inspire by being competent	0.69
	[0.16]
N Employees	585
N Branches	146

Notes: Data from December 2019. The table reports the mean and standard deviation (in square brackets) of the leadership score and its components. Leadership is elicited through the self-reported questionnaire *Global Transformational Leadership (GTL)*, which consists of 8 items. Each item has a 5-point Likert scale from 1 to 5. Leadership score is calculated by adding up 8 items and thus has a range 8 to 40. *Transformational Leadership Score (0-1)* captures the manager's average leadership rating from all employees within the branch, normalized to a range from 0 to 1. *Transformational Leadership Score (exclude own rating)* captures the manager's average leadership rating from all other employees (excluding own rating of the employee) within the branch, normalized to a range from 0 to 1. *Transformational Leadership (0/1, above sample mean)* is the binary variable that indicates whether the manager's average leadership rating from all employees within the branch is above the sample mean. *Transformational Leadership (0/1, above sample median)* is the binary variable that indicates whether the manager's average leadership rating from all employees within the branch is above the sample median. *Leadership Components* list all individual components normalized to a range from 0 to 1.

Table A.5: Individual Performance and Transformational Leadership
(Crisis =Apr20-Jan21)
+ Month FE and Controls

	Number of Clients				
	Total	Group	Individual	Client Acquisition	Financial Performance
	(1)	(2)	(3)	(4)	(5)
Panel A. Transformational leadership score (0-1)					
Transformational	-46.6772	-81.2040***	34.5268***	-6.4699**	-7.8141***
	(31.4398)	(29.8283)	(7.2935)	(2.7737)	(2.8287)
Transformational*Crisis	57.5062	57.7920	-0.2858	5.5397*	12.6421***
	(41.7683)	(39.9144)	(8.9369)	(2.9429)	(3.7187)
R^2	0.0578	0.0542	0.0339	0.4143	0.7493
Panel B. Transformational leadership score (exclude own rating)					
Transformational	-57.5534**	-88.6992***	31.1458***	-8.1235***	-6.6992**
	(28.4027)	(26.9130)	(7.0388)	(2.5679)	(2.6546)
Transformational*Crisis	53.8244	47.1413	6.6831	7.0443***	10.0109***
	(37.5006)	(35.8410)	(8.5564)	(2.7230)	(3.4426)
R^2	0.0576	0.0547	0.0364	0.4171	0.7496
Panel C. Transformational leadership 0/1 (above the sample median)					
Transformational	-8.0424	-14.9673*	6.9249***	-1.0270	-1.6016**
	(8.2301)	(7.7819)	(1.9952)	(0.7349)	(0.7569)
Transformational*Crisis	13.4119	12.9453	0.4666	0.8422	2.7491***
	(10.9960)	(10.4490)	(2.4065)	(0.7852)	(0.9835)
R^2	0.0577	0.0536	0.0305	0.4138	0.7492
Mean of Dep. Var.	556.3707	505.1247	51.2459	13.8187	92.1903
Observations	8255	8255	8255	8255	8255
N Employees	585	585	585	585	585
N Branches	146	146	146	146	146

Notes: Data from October 2019 to January 2021. Dependent variables: The variable *Total* refers to the total number of clients that employees handle, *Group* and *Individual* to the total number of group and individual clients, respectively. The variable *Client Acquisition* shows the number of clients acquired each month, net of settled clients. *Financial Performance* is the percentage of complete repayments as a fraction of outstanding repayment. Independent variables: *Crisis* is an indicator for observations during the pandemic, April 2020 to January 2021. *Panel A* shows *Transformational Leadership Score (0-1)* that captures the manager's average leadership rating from all employees within the branch, normalized to a range from 0 to 1. *Panel B* shows *Transformational Leadership Score (exclude own rating)* that captures the manager's average leadership rating from all other employees (excluding own rating of the employee) within the branch, normalized to a range from 0 to 1. *Panel C* shows *Transformational Leadership 0/1 (above the sample median)* that indicates whether the manager's average leadership rating from all employees within the branch is above the sample median. Mean of Dep. Var. reports the mean of the outcome variable before the crisis. The table includes month-year fixed effects and controls in all regressions. *Controls* include employee characteristics (age, marital status, college degree, seniority at the company, and seniority at the branch). Robust standard errors are used in all regressions. $^{*}p < 0.1$,$^{**}p < 0.05$,$^{***}p < 0.01$.

Table A.6: Individual Performance and Transformational Leadership
(Crisis High=Apr20-Aug20, Crisis Low=Sep20-Jan21)
+ Month FE and Controls

	Number of Clients				
	Total	Group	Individual	Client Acquisition	Financial Performance
	(1)	(2)	(3)	(4)	(5)
Panel A. Transformational leadership score (0-1)					
Transformational	-46.6764	-81.2032***	34.5267***	-6.4699**	-7.8140***
	(31.4416)	(29.8301)	(7.2939)	(2.7739)	(2.8289)
Transformational*High Crisis	34.6090	32.0665	2.5425	6.3127**	9.0937***
	(47.3767)	(45.4135)	(10.3051)	(2.9444)	(2.9099)
Transformational*Low Crisis	82.0083	85.3207*	-3.3124	4.7124	16.4392***
	(52.9433)	(50.7074)	(10.4428)	(3.2790)	(5.7106)
R^2	0.0579	0.0543	0.0340	0.4144	0.7494
Panel B. Transformational leadership score (exclude own rating)					
Transformational	-57.5564**	-88.7025***	31.1461***	-8.1234***	-6.6994**
	(28.4045)	(26.9146)	(7.0392)	(2.5681)	(2.6548)
Transformational*High Crisis	27.9199	18.9243	8.9956	7.9657***	8.5971***
	(42.3466)	(40.6438)	(9.9506)	(2.7262)	(2.7235)
Transformational*Low Crisis	81.2801*	77.0479*	4.2322	6.0678**	11.5093**
	(47.4988)	(45.4942)	(9.7998)	(3.0303)	(5.2138)
R^2	0.0578	0.0548	0.0364	0.4171	0.7497
Panel C. Transformational leadership 0/1 (above the sample median)					
Transformational	-8.0424	-14.9674*	6.9250***	-1.0270	-1.6018**
	(8.2306)	(7.7824)	(1.9953)	(0.7350)	(0.7570)
Transformational*High Crisis	13.4707	12.4735	0.9971	1.1545	1.7265**
	(12.6498)	(12.0763)	(2.7852)	(0.7785)	(0.7902)
Transformational*Low Crisis	13.3500	13.4420	-0.0919	0.5134	3.8257***
	(13.7646)	(13.0731)	(2.7325)	(0.8888)	(1.4744)
R^2	0.0577	0.0536	0.0305	0.4138	0.7492
Mean of Dep. Var.	556.3707	505.1247	51.2459	13.8187	92.1903
Observations	8255	8255	8255	8255	8255
N Employees	585	585	585	585	585
N Branches	146	146	146	146	146

Notes: Data from October 2019 to January 2021. Dependent variables: The variable *Total* refers to the total number of clients that employees handle, *Group* and *Individual* to the total number of group and individual clients, respectively. The variable *Client Acquisition* shows the number of clients acquired each month, net of settled clients. *Financial Performance* is the percentage of complete repayments as a fraction of outstanding repayment. Independent variables: *Before* refers to six months before the debt moratorium (from October 2019 to March 2020), *Crisis High* to the period during the moratorium, April to August 2020, and *Crisis Low* to the period after the moratorium, September 2020 to January 2021. *Panel A* shows *Transformational Leadership Score (0-1)* that captures the manager's average leadership rating from all employees within the branch, normalized to a range from 0 to 1. *Panel B* shows *Transformational Leadership Score (exclude own rating)* that captures the manager's average leadership rating from all other employees (excluding own rating of the employee) within the branch, normalized to a range from 0 to 1. *Panel C* shows *Transformational Leadership 0/1 (above the sample median)* that indicates whether the manager's average leadership rating from all employees within the branch is above the sample median. Mean of Dep. Var. reports the mean of the outcome variable before the crisis. Robust standard errors are used in all regressions. $^{*}p < 0.1,^{**}p < 0.05,^{***}p < 0.01$.

Table A.7: Work Styles and Transformational Leadership
(Dec19 vs. Dec20)
+ Controls

	Planning	Effort	Objective Time	Subjective Time
	(1)	(2)	(3)	(4)
Panel A. Transformational leadership score (0-1)				
Transformational	0.1664**	0.2347***	-279.6349***	0.2222**
	(0.0774)	(0.0719)	(92.1178)	(0.1019)
Transformational*Crisis	-0.0747	-0.2103*	297.9929**	-0.1910
	(0.1091)	(0.1114)	(134.5723)	(0.1502)
Crisis	0.0288	0.1219	-228.5699**	0.1290
	(0.0780)	(0.0801)	(97.0716)	(0.1089)
R^2	0.0207	0.0451	0.0324	0.0263
p-value Transformational (Overall)	0.2400	0.7753	0.8528	0.7797
p-value Crisis (Overall)	0.1886	0.0110	0.0953	0.1747
Panel B. Transformational leadership score (exclude own rating)				
Transformational	0.0907	0.1090*	-219.7994***	0.0951
	(0.0651)	(0.0598)	(83.8217)	(0.0851)
Transformational*Crisis	-0.0435	-0.1067	239.9699*	-0.1119
	(0.0942)	(0.0891)	(122.7756)	(0.1212)
Crisis	0.0073	0.0488	-185.3871**	0.0719
	(0.0666)	(0.0634)	(88.9855)	(0.0877)
R^2	0.0140	0.0288	0.0270	0.0180
p-value Transformational (Overall)	0.4942	0.9717	0.8229	0.8482
p-value Crisis (Overall)	0.2575	0.0528	0.1546	0.3035
Panel C. Transformational leadership 0/1 (above the sample median)				
Transformational	0.0425**	0.0477***	-39.2731*	0.0129
	(0.0188)	(0.0153)	(20.1183)	(0.0224)
Transformational*Crisis	-0.0037	-0.0430*	43.6942	-0.0180
	(0.0266)	(0.0255)	(30.6302)	(0.0333)
Crisis	-0.0220	-0.0040	-41.3964*	0.0039
	(0.0192)	(0.0187)	(22.5044)	(0.0241)
R^2	0.0261	0.0393	0.0208	0.0174
p-value Transformational (Overall)	0.0411	0.8208	0.8486	0.8364
p-value Crisis (Overall)	0.1614	0.0067	0.9120	0.5388
Mean of Dep. Var.	0.6684	0.7463	657.3223	0.7703
Observations	574	566	585	583
N Employees	301	301	301	301
N Branches	125	125	125	125

Notes: Data from December 2019 and December 2020. *Controls* include employee characteristics (age, marital status, college degree, seniority at the company, and seniority at the branch). Dependent variables: *Planning* is a normalized index capturing how well employees plan their work (e.g., using reminders and checklists, and following through with their plans). *Effort* is a normalized index capturing how much effort employees exert on main work dimensions (disbursement, repayment, and acquisition). *Objective (Working) Time* captures the self-reported working time in minutes during a normal day. *Subjective (Working) Time* is a normalized index capturing the subjectively perceived working time of employees (e.g., often working overtime or skipping lunches). Independent variables: *Crisis* is an indicator variable the period during the pandemic, December 2020. *Panel A* shows *Transformational Leadership Score (0-1)* that captures the manager's average leadership rating from all employees within the branch, normalized to a range from 0 to 1. *Panel B* shows *Transformational Leadership Score (exclude own rating)* that captures the manager's average leadership rating from all other employees (excluding own rating of the employee) within the branch, normalized to a range from 0 to 1. *Panel C* shows *Transformational Leadership 0/1 (above the sample median)* that indicates whether the manager's average leadership rating from all employees within the branch is above the sample median. Mean of Dep. Var. reports the mean of the outcome variable before the crisis. Robust standard errors are used in all regressions. $^{*}p < 0.1$,$^{**}p < 0.05$,$^{***}p < 0.01$.

Table A.8: Mental Well-Being and Transformational Leadership
(Jun/Jul20)

	Subjective Well-Being			Perceived Stress		
	z-Score	Increase (0-1)	Decrease (0-1)	z-Score	Increase (0-1)	Decrease (0-1)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Transformational leadership score (0-1)						
Transformational	0.9229***	0.1708	-0.1364	-0.2144	0.1214	0.1583
	(0.1850)	(0.1063)	(0.1078)	(0.1800)	(0.1001)	(0.1022)
R^2	0.0174	0.0064	0.0040	0.0060	0.0035	0.0059
Panel B. Transformational leadership score (exclude own rating)						
Transformational	0.5529***	0.2203**	-0.2110**	-0.1955	0.0507	0.2293***
	(0.1780)	(0.0940)	(0.1008)	(0.1666)	(0.0912)	(0.0886)
R^2	0.0085	0.0124	0.0112	0.0074	0.0007	0.0144
Panel C. Transformational leadership 0/1 (above the sample median)						
Transformational	0.2108***	0.0454	-0.0562**	-0.0848*	0.0136	0.0306
	(0.0499)	(0.0280)	(0.0283)	(0.0492)	(0.0270)	(0.0272)
R^2	0.0128	0.0064	0.0095	0.0070	0.0006	0.0031
Mean of Dep. Var	0.0220	0.4254	0.4234	-0.0021	0.3864	0.3866
Observations	1741	412	412	1741	412	412
N Employees	453	412	412	453	412	412
N Branches	143	140	140	143	140	140
Wave FE	✓			✓		

Notes: Data from June-July 2020. Dependent variables: *Subjective well-being* is elicited through the self-reported questionnaire *WHO-5 Well-Being Index*. *Perceived stress* is elicited through the self-reported questionnaire *Perceived Stress Scale 4 (PSS-4)*. The variable *z-Score* is a standardized score, which is calculated by subtracting the sample mean and dividing by the sample standard deviation. The variable *Increase (0-1)* captures the fraction of increases among all fluctuations during the survey period. The variable *Decrease (0-1)* captures the fraction of decreases among all fluctuations during the survey period. *Panel A* shows *Transformational Leadership Score (0-1)* that captures the manager's average leadership rating from all employees within the branch, normalized to a range from 0 to 1. *Panel B* shows *Transformational Leadership Score (exclude own rating)* that captures the manager's average leadership rating from all other employees (excluding own rating of the employee) within the branch, normalized to a range from 0 to 1. *Panel C* shows *Transformational Leadership 0/1 (above the sample median)* that indicates whether the manager's average leadership rating from all employees within the branch is above the sample median. Robust standard errors are used in all regressions. $^{*}p < 0.1,^{**}p < 0.05,^{***}p < 0.01$.

Table A.9: Leadership Ratings before and during the Covid-19 pandemic

	Transformational Leadership (0/1) (1)	Transformational Leadership Score (0-1) (2)	Transformational Leadership Score (0-1) (3)	Transformational Leadership Score (0-1) (4)
Crisis	-0.0105	-0.0950***	0.0305	-0.1775***
	(0.0590)	(0.0173)	(0.0283)	(0.0152)
Constant	0.6031***	0.6974***	0.5645***	0.7849***
	(0.0429)	(0.0119)	(0.0155)	(0.0066)
Observations	262	262	104	158
N Branches	131	131	52	79
R^2	0.0001	0.1041	0.0112	0.4655
Transformational=1			No	Yes

Notes: Data from December 2019 and December 2020. Independent variable: *Crisis* is an indicator variable the period during the pandemic, December 2020. Dependent variables: *Transformational Leadership (0/1)* indicates whether the manager's average leadership rating from all employees within the branch is above the sample mean. *Transformational Leadership Score (0-1)* that captures the manager's average leadership rating from all employees within the branch, normalized to a range from 0 to 1. Column (3) and (4) show the estimated coefficients for the sample of managers whose average leadership rating from all employees within the branch is below and above the sample mean in December 2019, respectively. Robust standard errors are used in all regressions. $^{*}p < 0.1$,$^{**}p < 0.05$,$^{***}p < 0.01$.

Table A.10: Survey Attrition and Turnover by Transformational Leadership

	Transformational Leadership (1)	Transactional Leadership (2)	Test (1)=(2) p-value (3)
Survey Non-Response	0.09	0.04	0.3383
	[0.35]	[0.19]	
Survey Attrition	1.88	2.09	0.3624
	[1.36]	[1.35]	
Turnover	1.03	1.20	0.3418
	[1.05]	[1.03]	
N Branches	92	54	

Notes: Dependent variable: *Survey Non-Response* refers to the number of employees at a branch who did not answer the baseline survey. *Survey Attrition* captures the number of employees at a branch who answered the baseline survey but did not respond to the endline survey. *Turnover* captures the number of employees at a branch who answered the baseline survey and left the company during the period from October 2019 to January 2021. The table reports the mean and standard deviation (in square brackets) of the survey non-response, survey attrition, and turnover by leadership style. Column (3) reports the p-value of the t-test that both means are the same. *Transformational Leadership* is an indicator if the manager's average leadership rating from all employees within the branch is above the sample mean. *Transactional Leadership* is an indicator if the manager's average leadership rating from all employees within the branch is below the sample mean.

Table A.11: Balance Check – Leadership Components

	All Employees (1)	Employees with complete components (2)	Employees with missing components (3)	Test (2)=(3) p-value (4)
Transformational Leadership Score (0-1)	0.70	0.70	0.71	0.6457
	[0.14]	[0.14]	[0.14]	
Clear and positive vision	3.83	3.85	3.61	0.1442
	[1.12]	[1.10]	[1.25]	
Support personal developments	3.71	3.71	3.74	0.8329
	[1.09]	[1.09]	[1.10]	
Encouragement and recognition	3.77	3.80	3.58	0.1086
	[1.06]	[1.07]	[0.99]	
Foster trust and cooperation	3.84	3.84	3.82	0.8463
	[1.00]	[0.99]	[1.02]	
Encourage innovative thinking	3.80	3.82	3.68	0.3162
	[1.03]	[1.01]	[1.18]	
Clear values and practices	3.79	3.81	3.62	0.1739
	[1.00]	[1.00]	[0.95]	
Instill pride and respect	3.78	3.78	3.81	0.7925
	[1.04]	[1.05]	[0.99]	
Inspire by being competent	3.72	3.76	3.48	0.0403
	[1.05]	[1.04]	[1.12]	
Age	26.14	26.22	25.69	0.1841
	[3.54]	[3.65]	[2.80]	
Married %	0.53	0.52	0.54	0.8149
	[0.50]	[0.50]	[0.50]	
College %	0.84	0.84	0.84	0.9470
	[0.37]	[0.37]	[0.37]	
Seniority at company (in months)	32.66	32.58	33.10	0.9193
	[44.30]	[42.95]	[51.38]	
Seniority at branch (in months)	21.77	21.18	25.08	0.3117
	[33.28]	[29.32]	[49.97]	
N Employees	585	492	93	

Notes: Data from December 2019. The table reports the mean and standard deviation (in square brackets) of the normalized leadership score, its components, and the characteristics of employees. Column (1) reports the statistics for our full sample, Column (2) reports the statistics for employees who answered all leadership components, and Column (3) reports statistics for employees who have at least one missing leadership component. Column (4) reports the p-value of the t-test that the means are the same in Column (2) and Column (3). *Transformational Leadership Score (0-1)* captures the manager's average leadership rating from all employees within the branch, normalized to a range of 0 to 1.

Table A.12: Balance Check – Analysis Sample

	Employees included in Analysis Sample (1)	Employees excluded from Analysis Sample (2)	Test (1)=(2) p-value (3)
Employee Characteristics			
Age	26.14	26.14	0.9954
	[3.54]	[3.80]	
Married %	0.53	0.29	0.2055
	[0.50]	[0.49]	
College %	0.84	0.86	0.9079
	[0.37]	[0.38]	
Seniority at company (in months)	32.66	24.29	0.6176
	[44.30]	[15.00]	
Seniority at branch (in months)	21.77	21.00	0.9512
	[33.28]	[17.65]	
Individual Performance			
Total Number of Clients	547.35	565.58	0.1542
	[256.03]	[212.14]	
Number of Group Clients	499.97	517.46	0.1514
	[243.32]	[215.20]	
Number of Invidual Clients	47.37	48.12	0.7900
	[55.24]	[66.16]	
Client Acquisition	2.62	2.53	0.9285
	[20.04]	[18.26]	
Financial Performance	58.86	61.06	0.3178
	[43.75]	[43.38]	
N Employees	585	28	

Notes: Data on employee characteristics from December 2019. Data on individual performance from October 2019 to January 2021. The table reports the mean and standard deviation (in square brackets) of the characteristics of employees and their performance. Column (1) reports the statistics for our analysis sample, and Column (2) reports the statistics for employees who are excluded from our analysis sample. Column (3) reports the p-value of the t-test that both means are the same.

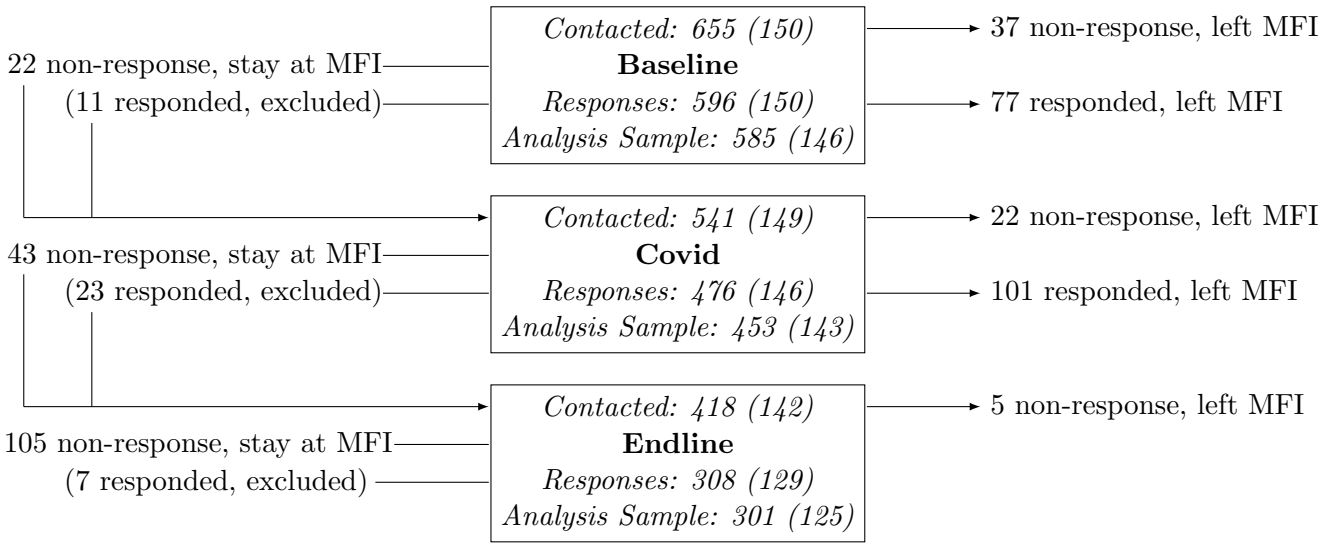

Figure A.1: Attrition and Response Rates

Notes: The figure shows the sample dynamics and reports the number of employees and the number of branches (in parentheses) that participate in our surveys.

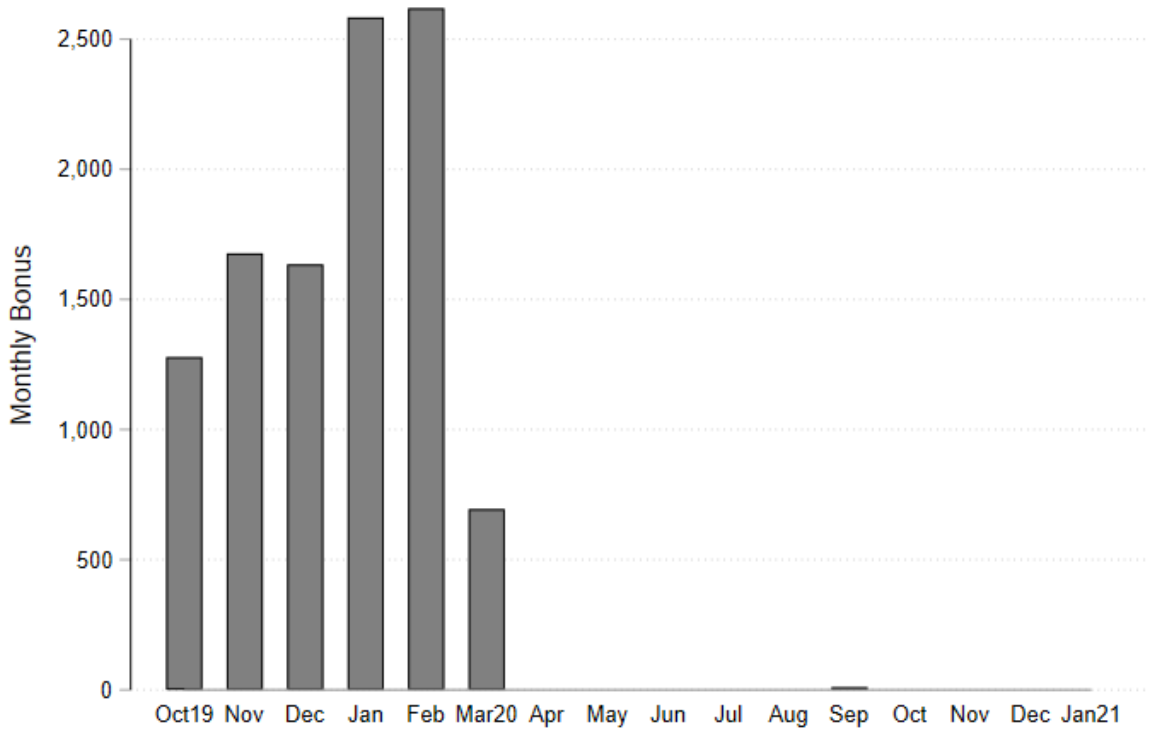

Figure A.2: Monthly Bonus from October 2019 to January 2021

Notes: Data from October 2019 to January 2021. The figure shows the average monthly bonus (in Indian Rupees) from October 2019 to January 2021 for our sample employees. N Employees: 585. N Branches: 146

B. Description of Variables and their Sources

We substitute names and titles in brackets with institution-specific terms.

Transformational Leadership Measured in the baseline survey in December 2019 and in the endline survey in December 2020. The Global Transformational Leadership scale (GTL) is a short and practical self-reported instrument to measure the eight behaviours of transformational leadership. It has been developed as a single construct of transformation leadership and is validated to have satisfactory reliability by Carless et al. (2000). The index consists of eight statements (one item for each behaviour), which respondents evaluate the frequency of transformational leadership behaviours exhibited by their leader, according to a 1-5 scale. The total score thus ranges from 8 to 40, with a higher score indicating more engagement of leaders in transformational behaviours. The wording is as follows:

"How often/frequently does your Manager engage in the following activities?

i. communicates a clear and positive vision of the future

ii. treats [employees] as individuals, supports and encourages their development

iii. gives encouragement and recognition to [employees]

iv. fosters trust, involvement and cooperation among [employees] in the branch

v. encourages thinking about problems in new ways and questions assumptions

vi. is clear about his/her values and practices which he/she preaches

vii. instills pride and respect in others

viii. inspires me by being highly competent"

Responses are measured on a five-point scale (rarely or never [1], once in a while [2], sometimes [3], fairly often [4], very frequently, if not always [5]). We normalize the leadership score to a range between zero and one.

Planning Measured in the baseline survey in December 2019 and in the endline survey in December 2020. The planning index captures the extent employees plan their work and consists of 5 items.

The wording is as follows:

Would you agree or disagree to the following statements?

1. I plan my everyday work life

2. I use checklists to organize my everyday work load

3. I use reminders to manage my everyday work load

4. It is difficult to stick to my work plan

5. It is difficult for me to follow-through to reach the specific performance level I aimed at

Responses are measured on a five-point scale (Strongly agree [1], Agree [2], Neutral [3], Disagree [4], Strongly disagree [5]). Item 4 and 5 are recoded in inverse order before adding up.

Effort Measured in the baseline survey in December 2019 and in the endline survey in December 2020. The effort index captures the extent employees exert effort in three main work dimensions (disbursement, repayment, and acquisition) and consists in total of 23 items.

The wording is as follows:

Would you agree or disagree to the following statements?

Disbursement

1. I inquire about borrower's housing situation to see whether they may be interested in a home improvement or sanitation loan
2. I only assess borrower eligibility and do all necessary background checks, once a borrower requests to switch from [group] to [invidual loans]
3. I only assess borrower eligibility and do all necessary background checks, once a borrower requests an additional loan product
4. I go through the list of [group] borrowers and mark who would be a good candidate for an upgrade to an individual loan
5. I actively approach eligible [group] borrowers to switch to [invidual] loans

Repayment

6. I actively try to gain information about members' business activities
7. I actively try to gain information about members' loan usage/ on how a borrrower has used the loan amount
8. I encourage loan repayments by closely following over-due borrowers in their everyday life to build up pressure
9. I encourage loan repayments loan repayments by cautioning that no further loans will be available for borrower if repayment is not made
10. I ask group leaders for help in reminding defaulting members about repayment
11. I ask other members for help in reminding defaulting members about repayment
12. When a reason for non-repayment is genuine, I allow other group members to contribute and submit a repayment for a defaulting borrower
13. I allow defaulters to repay their installment from the meeting directly at the branch in the evening

Acquisition

14. I regularly provide your borrowers information about loan products available
15. I think about different ways how to best provide information on different loan products to all borrowers
16. I advertise utilities that MFI sells
17. I advertise other loan products, like home improvement loans or sanitation loans to all borrowers
18. I advertise other loan products, like home improvement loans or sanitation loans to all borrowers

19. I identify borrowers who may be good candidates for other loan products available aside from the standard loan, like home improvement loans, sanitation loans, or utility products
20. I only advertise other loan products, like home improvement loans or sanitation loans to borrowers who may be good candidates for these
21. I identify potential villages to expand services to
22. I market MFI in new and existing areas
23. I ask borrowers to encourage others to join MFI

Responses are measured on a five-point scale (Strongly agree [1], Agree [2], Neutral [3], Disagree [4], Strongly disagree [5]). Item 20 and 21 are recoded in inverse order before adding up.

Objective Working Time Measured in the baseline survey in December 2019 and in the endline survey in December 2020. The objective working time captures employee's working duration without a lunch break (in minutes) during a normal day. We elicit when the employee starts and finishes their normal work day, and how much time the employee has for a lunch break.

Subjective Working Time Measured in the baseline survey in December 2019 and in the endline survey in December 2020. The subjective working time index captures how employees perceive their working time and consists of 4 items.

The wording is as follows:

Would you agree or disagree to the following statements?

1. To improve my performance, I often work-after hours
2. I often skip lunch breaks to get my work load done
3. I try to work while I am traveling back and forth from borrowers
4. I often work after regular working hours for [employees] to get my workload done

Responses are measured on a five-point scale (Strongly agree [1], Agree [2], Neutral [3], Disagree [4], Strongly disagree [5]).

Subjective Well-Being Measured weekly for six weeks in June and July 2020 and once in December 2020. The WHO-5 index is a self-reported measure of current subjective well-being, first introduced in 1998 as part of the DEPCARE project on well-being measures in primary health care. It has been found to have adequate validity in screening for depression and in measuring well-being (Topp et al., 2015). The index consists of five statements, which respondents rate according to the 0-5 scale. The total score thus ranges from 0 to 25, with 0 representing the worst possible well-being and 25 representing the best possible well-being. The normalized score is obtained by dividing the total score by 25. The wording is as follows:

Over the last two weeks,

a. I have felt cheerful and in good spirits
b. I have felt calm and relaxed
c. I have felt active and vigorous
d. I woke up feeling fresh and rested
e. My daily life has been filled with things that interest me

Responses are measured on a five-point scale (at no time [0], some of the time [1], less than half of the time [2], more than half of the time [3], most of the time [4], all of the time [5]).

Perceived Stress Measured weekly for six weeks in June and July 2020 and once in December 2020. The Perceived Stress Scale (PSS), developed by Cohen et al. (1983), is a self-reported measure. The short version, PSS-4, is a simple psychological instrument to measure the degree to which one perceives current events in the last week as stressful. Four items are designed to detect how unpredictable, uncontrollable, and overloaded respondents find the situations in their lives. The total score ranges from 0 to 16, with the higher score indicating the more perceived stress. The normalized score is obtained by dividing the total score by 16. The wording is as follows:

In the last week, how often have you felt

- ... that you were unable to control the important things in your life?
- ... confident about your ability to handle your personal problems?
- ... that things were going your way?
- ... difficulties were piling up so high that you could not overcome them?

Responses are measured on a five-point scale (never [0], almost never [1], sometimes [2], fairly often [3], very often [4]).