An Experimental Evaluation of a Teacher Mindfulness Course in a Metro-Atlanta District

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Motivation and Context

Teaching is a high-stress profession with increasing rates of burnout and exits from the profession for higher-paying, less-stressful jobs.[1] The effects of the COVID-19 pandemic exacerbated the difficult demands of the teaching profession.[2] Adopting mindfulness practices has the potential to improve teachers' classroom performance and reduce symptoms of burnout. When teachers used mindfulness practices, they have reported improved psychological functioning, enhanced teaching practices, and reduced stress.[3] Mindfulness skills may also benefit students through a healthier classroom environment by improving teacher-student relationships, teachers' classroom management abilities, and teacher practices.[4]

In 2021, the Office of Human Resources (HR) at a metro-Atlanta school district (hereafter "the district") contracted with The Namaste Project to conduct a mindfulness pilot program for the district's teachers during school year (SY) 2021-22. An eight-week *Mindful Educator* pilot course (referred to herein as the "mindfulness course") taught mindfulness techniques with the aim of decreasing stress, improving mental and physical health, and increasing teacher satisfaction and retention. The district offered the course for the first time in fall 2021 and offered the same eight-week program again in spring 2022. Starting in SY 2022-23, the *Mindful Educator* course became a yearlong, optional course offered to the district's teachers.

In this report, we describe the results of an experimental evaluation of the *Mindful Educator* pilot course that the district offered to its teachers in fall 2021. After teachers were randomly assigned to treatment and control groups, teachers in the treatment group were invited to participate in the mindfulness course during the fall and winter of 2021. We examine the impact of the course on teachers' self-reported measures of well-being, including perceived stress, turnover intention, and burnout. The self-reported measures of well-being come from teacher surveys that were emailed to all teachers three times during the experimental study period: first, in fall 2021, before the mindfulness course began; second, in winter 2021, immediately after the course ended; and third, towards the end of the spring 2022 semester, two months after the mindfulness course ended. We also assess the impact of the course on observed teacher retention using data on teacher employment in the district in fall 2022, the start of the subsequent school year.

We designed this study in partnership with the district to inform decision-making regarding future offerings of mindfulness courses for teachers. Only a

few previous studies have assessed the impact of a teacher mindfulness course using an experimental research design. The experimental method used in this study is widely considered a gold standard research design to assess causal impacts. Moreover, this study involves a relatively large number of teachers: 3,034 teachers in total, with 1,514 of those teachers randomly assigned to receive an invitation to participate in the program. However, as we describe below, a far smaller number of teachers chose to participate in the mindfulness course.

Research Questions

In this study we address the following two research questions:

1. Did the *Mindful Educator* pilot course, which a metro-Atlanta district offered to teachers in fall 2021, impact teachers' self-reported measures of well-being immediately after and two months after the course finished?

2. Did the *Mindful Educator* pilot course impact teacher retention in the subsequent school year?

Data

We use administrative data about district employees during SYs 2021-22 and 2022-23, including information about their gender, race and ethnicity, age, teaching experience, and education. We supplement the employee data with information about teachers' participation in the mindfulness course offered in fall 2021. To measure well-being outcomes, we rely on self-reported measures collected by a districtwide survey in the fall, winter, and spring of SY 2021-22. The fall survey was given before the course began, while the winter and spring surveys were collected immediately after and two months after the course finished, respectively.

Each of the three surveys asked teachers to respond to the same series of questions about their well-being. The survey measures consist of four externally validated scales covering turnover intention, negative and positive affect, perceived stress, and disengagement and exhaustion (i.e., burnout). We added two additional questions to the survey that asked teachers about their mindfulness practices. We average each teacher's responses across the individual-scale items to calculate an overall score for each scale. Appendix A

reports each scale, its associated items, and provides additional detail about the data processing steps.

Experimental Method

Before the fall 2021 semester began, we randomly assigned the district's teachers to receive either an invitation to participate in the mindfulness course (i.e., the treatment group) or not invited to participate (i.e., the control group). At the district's request, we used simple random assignment so that all teachers had the same chance of being included in the treatment group, regardless of the school at which they taught.

Table 1 reports the average characteristics of all teachers in the first column, the teachers who received and did not receive an invite in columns 2 and 3, and the difference between the characteristics in the treatment and control groups in column 4. All the differences are small and statistically insignificant at the 95% confidence level, suggesting that randomization successfully created treatment and control groups with balanced observed characteristics.

The outcomes of interest include self-reported measures of teacher well-being collected via two teacher surveys after the mindfulness course finished. We also collected the same measures via a teacher survey before the course began, allowing for a further test of the success of the randomization procedure. Table 2 reports the average scale scores in the pre-survey for teachers who received and did not receive an invitation to participate in the intervention, along with the difference between the scale scores. All the differences are small and statistically insignificant at the 95% confidence level, providing evidence that randomization created treatment and control groups that are balanced on pre-treatment outcomes. It also lends support to the assumption that the groups are equivalent for unobservable characteristics.

Table 1. Demographic Characteristics of Teachers

Characteristic	All Teachers	Not invited	Invited	Difference
Female	0.774	0.765	0.782	0.017 (0.015)
Race and Ethnicity				
Black	0.733	0.735	0.731	-0.004 (0.016)
White	0.213	0.218	0.209	-0.009 (0.015)
Hispanic	0.036	0.034	0.038	0.004 (0.007)
Another Race	0.017	0.013	0.022	0.009 (0.005)
Highest Degree				
Bachelor's	0.345	0.330	0.361	0.031 (0.017)
Master's	0.463	0.472	0.455	-0.017 (0.018)
Education Specialist	0.140	0.147	0.133	-0.014 (0.013)
Doctorate	0.052	0.052	0.052	-0.000 (0.008)
Experience	12.54	12.53	12.54	0.005 (0.315)
Age	42.05	42.09	42.02	-0.070 (0.395)
Sample Size	3,034	1,520	1,514	

Notes. This table reports average characteristics for teachers not invited and invited to participate in an eight-week *Mindful Educator* pilot course in a metro-Atlanta district in fall 2021. The difference column reports the difference between the average characteristic for teachers not invited and invited to participate. Standard errors are shown in parentheses. None of the differences are statistically significant at the 95% confidence level. Black and White teachers are non-Hispanic.

Table 2. Self-reported Well-being Measures and Mindfulness Practice of Teachers Before the Mindfulness Course

Measure	All Teachers	Not Invited	Invited	Difference
Turnover Intention	3.06	3.08	3.04	-0.035 (0.028)
Negative Affect	2.10	2.12	2.09	-0.028 (0.032)
Positive Affect	3.29	3.28	3.30	0.015 (0.031)
Perceived Stress	2.20	2.20	2.20	0.002 (0.019)
Disengagement	2.45	2.46	2.45	-0.012 (0.021)
Exhaustion	2.65	2.65	2.65	0.002 (0.021)
Mindfulness	2.61	2.64	2.58	-0.061 (0.035)
Sample Size	2,246	1,150	1,096	

Notes. This table reports average characteristics for teachers not invited and invited to participate in an eight-week *Mindful Educator* pilot course in a metro-Atlanta district in fall 2021. The difference columns report the difference between the average characteristic for teachers not invited and invited to participate. Standard errors are reported in parentheses. None of the differences are statistically significant at the 95% confidence level. Turnover intention, negative and positive affect, perceived stress, and mindfulness are measured on a five-point scale. Disengagement and exhaustion are measured on a four-point scale.

Finding 1: Overall Impact of Offering the Mindfulness Course

Teachers invited to participate in the mindfulness course reported having a lower turnover intention immediately after the program ended, compared to teachers not invited. Other measures of well-being were not statistically significantly different immediately after the program ended, and no outcomes were significantly different after two months had passed.

We begin by calculating so-called "intention-to-treat" effects, which compare the difference in self-reported outcomes between teachers who received an invitation to participate in the mindfulness course and teachers who did not receive an invitation. These effects are important because they reflect the overall impact of offering the course, irrespective of whether teachers choose to participate. Table 3 reports estimated "intention-to-treat" effects for three sets of outcomes: a winter survey administered immediately after the mindfulness course ended; a spring survey taken two months later; and teacher retention, defined as the fraction of teachers who returned to teach at the district at the start of the following school year.

In the survey taken immediately after the mindfulness course ended, the average scale scores for invited teachers were lower for turnover intention, negative affect, perceived stress, disengagement, and exhaustion, compared to teachers who were not invited to participate (Panel A of Table 3). Average scale scores for invited teachers were higher for positive affect and mindfulness, compared to teachers who were not invited to participate. Therefore, the scale score level for every measure of well-being was "better" for the teachers who received an invitation to participate than the teachers who were not invited. However, only the difference in the level of the scale scores for the turnover intention measure, which was about 0.1 scale score points lower for invited teachers, is statistically significant at the 95% confidence level. We were unable to detect a statistically significant difference (at the 95% confidence level) in the levels of the scale scores for any of the other measures of well-being.

When surveyed two months later, the scale scores of all teachers were "better" relative to the winter scores in that the measures of well-being where lower scale scores are better were lower in the spring compared to the winter, and

the measures of well-being where higher scale scores are better were higher in the spring. This finding suggests that overall teacher well-being was higher in the spring than in the winter (Panel B of Table 3). However, the differences in the scale score levels between teachers who received an invitation to participate in the mindfulness course and teachers who did not receive an invitation were small, and none of the differences were statistically significant at the 95% confidence level. Moreover, there was no difference in the fraction of teachers who returned to teach at the district the following year, with 81% teacher retention in both the treatment and control groups. Overall, receiving an offer to participate in the mindfulness course had a limited short-term beneficial effect on well-being but no medium- or longer-term effects on well-being, engagement with mindfulness practice, or teacher retention.

Table 3. Intention to Treat Effects of Receiving an Invitation to Participate in a Teacher Mindfulness Course

Measure	No Invite	Invite	Difference
Panel A: Winter Survey			
Turnover Intention	3.26	3.16	-0.10* (0.05)
Negative Affect	2.30	2.19	-0.11 (0.06)
Positive Affect	3.07	3.10	0.03 (0.06)
Perceived Stress	2.24	2.20	-0.04 (0.03)
Disengagement	2.65	2.60	-0.05 (0.04)
Exhaustion	2.80	2.74	-0.06 (0.04)
Mindfulness	2.70	2.74	0.04 (0.06)
Sample Size	515	474	
Panel B: Spring Survey			
Turnover Intention	3.09	3.05	-0.04 (0.04)
Negative Affect	2.01	2.01	0.00 (0.04)
Positive Affect	3.39	3.35	-0.03 (0.04)
Perceived Stress	2.18	2.19	0.02 (0.03)
Disengagement	2.48	2.46	-0.02 (0.03)
Exhaustion	2.58	2.59	0.01 (0.03)
Mindfulness	2.58	2.58	0.01 (0.05)
Sample Size	804	764	
Panel C: Teacher Retention			
Taught at District Next Year	0.81	0.81	-0.00 (0.01)
Sample size	1,517	1,484	

Notes. This table reports intention to treat effects of receiving an invitation to participate in the eight-week *Mindful Educator* pilot course in a metro-Atlanta district in SY 2021-22. The difference column reports the difference between the average characteristic for teachers not invited and invited to participate, while controlling for the characteristics reported in Table 1 and the pre-treatment measure shown in Table 2. Standard errors are reported in parentheses. The survey was administered immediately after the mindful educator program finished in winter SY 2021-22. Turnover intention, negative and positive affect, perceived stress, and mindfulness are measured on a five-point scale. Disengagement and exhaustion are measured on a four-point scale.

* Statistically significant at the 95% confidence level.

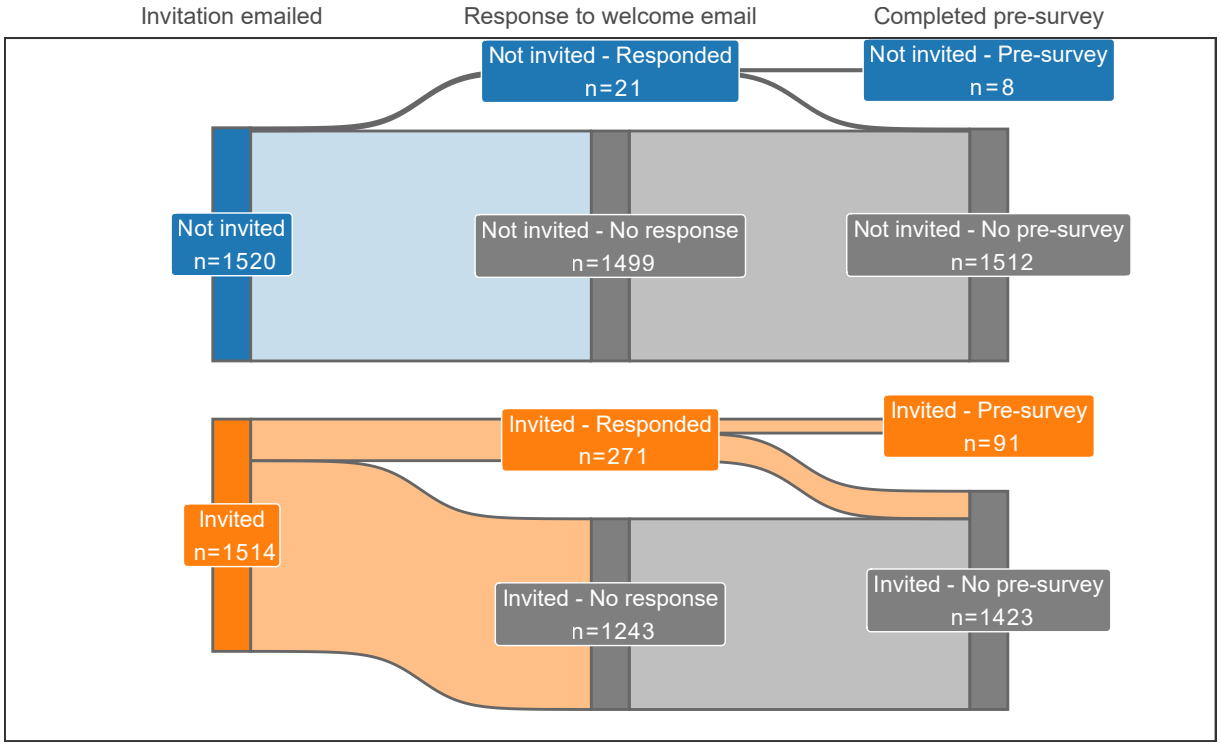
Finding 2: Engagement Patterns

Few teachers invited to participate in the mindfulness course took up the offer. Among teachers who did respond positively, few participated more than once.

Figure 1 displays the flow of teachers throughout the experimental study. As shown in Table 1, 1,514 teachers received an emailed invitation to participate in the mindfulness course, while 1,520 teachers were not invited to participate. Of the 1,514 invited teachers, 271 teachers indicated their desire to participate and, subsequently, received a welcome email from course staff. Additionally, 21 teachers assigned to the control group ended up responding to the welcome email and indicated their interest in participating. The welcome email asked teachers to complete a pre-survey administered by The Namaste Project as the first part of the mindfulness course. Of the 271 invited teachers who indicated their interest in the course, 91 teachers completed the pre-survey. Additionally, eight of the 21 control teachers who were interested in the course subsequently completed the pre-survey.

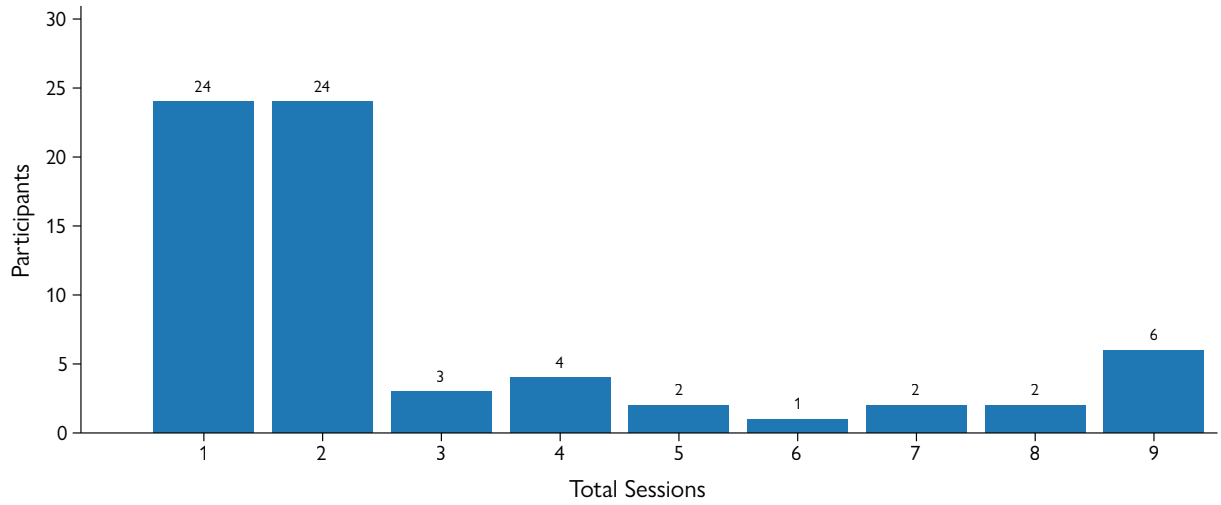
The mindfulness course consisted of ten sessions over eight weeks. Figure 2 shows the number of sessions in which teachers engaged with the course, among teachers who participated in at least one session. Forty-one teachers attended only one session; 42 teachers participated in two or more sessions. Eight teachers participated in all ten sessions. Given the relatively small number of teachers who engaged with the program, we define participating teachers to include teachers who attended one or more sessions—a total of 83 teachers. Based on this definition, the participation rate among teachers invited to participate in the mindfulness course was 5.5%.

Figure 1. Flow of Teachers After Receiving or Not Receiving an Invitation to Participate in the Mindfulness Course



Notes. This figure reports the flow and counts of teachers who received or did not receive an invitation to participate in the eight-week *Mindful Educator* pilot course in a metro-Atlanta district in fall 2021.

Figure 2. Teacher Participation in the Mindfulness Course



Notes. This figure reports the total number of sessions in which teachers participated in the eight-week *Mindful Educator* pilot course in a metro-Atlanta district in fall 2021. The figure only shows counts for teachers who participated at least once.

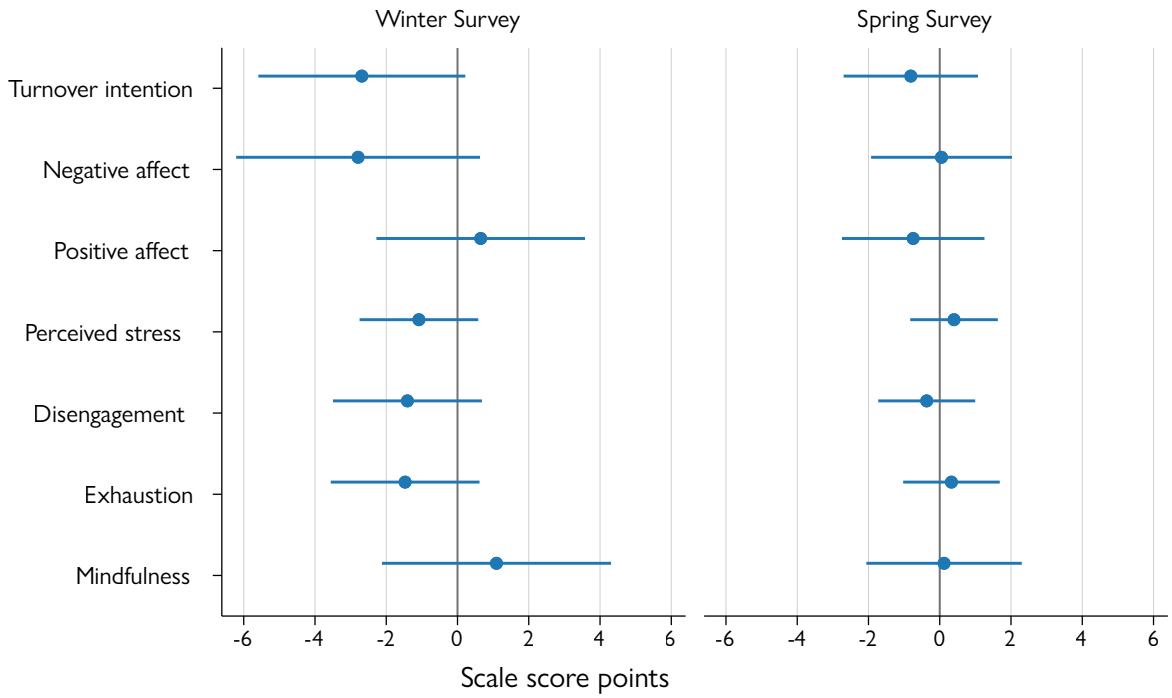
Finding 3: Estimated Effects of Participation

Teachers who were invited and participated in the mindfulness course had better well-being measures immediately after the program ended, on average, than teachers who were not invited and did not participate. However, the differences were not statistically significant. The estimated effects were even smaller two months later, with no statistically significant differences observed in well-being measures.

We can estimate the effect of participating in the mindfulness course (rather than the impact of being invited) by comparing well-being measures for teachers who were invited and participated in the mindfulness course with teachers who were not invited and did not participate.[5] We define participation as including teachers who attended one or more mindfulness sessions.

Figure 3 displays the estimated effects of participating in the mindfulness course immediately after the end of the course ("winter survey") and two months after the end of the course ("spring survey"). All of the estimated effects of the mindfulness course correspond to positive outcomes for teachers as measured immediately after the end of the course. The estimated effects are negative for turnover intention, negative affect, perceived stress, disengagement, and exhaustion, while the estimated effects are positive for positive affect and mindfulness. Moreover, the magnitudes of the estimated effects are large relative to the survey scales. For example, participating in the mindfulness course is estimated to reduce turnover intention by around 2.5 scale-score points on a five-point scale. However, given imprecision in the estimated effects, we cannot confidently rule out the possibility that participation in the mindfulness course had no effect on the measures of teacher well-being. None of the estimated effects are statistically significant at the 95% confidence level.

Figure 3. Local Average Treatment Effects of Participating in the Mindfulness Course



Notes. This graph displays local average treatment effects of participating in the eight-week *Mindful Educator* pilot course in a metro-Atlanta district in fall 2021. The blue bars on either side of the point estimate show the 95% confidence interval. Turnover intention, negative and positive affect, and mindfulness are on a five-point scale. Perceived stress, disengagement, and exhaustion are on a four-point scale.

The measures of well-being that were obtained two months after the mindfulness course ended do not follow the uniformly beneficial pattern immediately after the course finished. The estimated effects for perceived stress and exhaustion, for example, are positive, while the estimated effect for positive affect is negative. Additionally, the estimated effects are smaller compared to immediately after the mindfulness course finished, and none of the estimated effects are statistically significant at the 95% confidence level. These estimated effects suggest that any benefits to well-being (at least for the measures in the teacher survey) that accrued to participants from the mindfulness course do not persist for long after the course finished.

Finding 4: Some Differential Characteristics for Participants

Teachers who are female, Black, older, or held a specialist credential were more likely to participate in the mindfulness course. Teachers who identified as another race or held a bachelor's degree as their highest level of education were less likely to participate.

There are few differences in the observed characteristics of teachers based on assignment to the treatment or control groups. However, there are some differences in the characteristics of teachers who opted to participate in the mindfulness course compared to non-participants. In this analysis, non-participants include (most of) the control group teachers and the treated teachers who received an invite but chose not to participate.[6]

Table 4 reports the characteristics of participants and non-participants, as well as the difference between the two groups. Four of the differences were statistically significant at the 95% confidence level. First, all 68 teachers who participated in one or more sessions of the mindfulness course were female—compared to 76.6% of non-participants—resulting in a 23.4-percentage-point gap between the groups. Second, the fraction of Black teachers among the participants was 10.8 percentage points higher than non-participants. Third, none of the participating teachers identified as "another race," whereas 1.8% of non-participants did. Fourth, participants were 11.3 percentage points less likely to hold a bachelor's degree as their highest level of education.

Table 4. Demographic Characteristics of Teachers by Participation Status

Characteristic	All Teachers	Non-participant	Participant	Difference
Female	0.771	0.766	1.000	0.234* (0.008)
Race and Ethnicity				
Black	0.732	0.730	0.838	0.108* (0.046)
White	0.214	0.215	0.147	-0.068 (0.044)
Hispanic	0.036	0.037	0.015	-0.022 (0.015)
Another Race	0.017	0.018	0.000	-0.018* (0.002)
Highest Degree				
Bachelor's	0.346	0.348	0.235	-0.113* (0.053)
Master's	0.464	0.465	0.426	-0.039 (0.062)
Education Specialist	0.138	0.136	0.235	0.099 (0.053)
Doctorate	0.052	0.051	0.103	0.052 (0.038)
Experience	12.51	12.49	13.41	0.920 (0.997)
Age	42.01	41.96	44.21	2.245 (1.209)
Sample Size	3,001	2,933	68	

Notes. This table reports average characteristics for teachers who did not participate and participated in an eight-week *Mindful Educator* pilot course in a metro-Atlanta district in fall 2021. The difference column reports the difference between the average characteristic for non-participant teachers and participants. Participants took part in at least one event. Black teachers and White teachers are non-Hispanic. Standard errors are shown in parentheses.

* Statistically significant at the 95% confidence level.

Conclusion

We conducted an experimental evaluation of the eight-week *Mindful Educator* pilot course for teachers in a metro-Atlanta district. We found some limited evidence of short-term benefits for self-reported measures of well-being. Teachers who were invited to participate in the mindfulness course report a lower intent to leave their teaching position immediately after the program ended, relative to non-invited teachers. Although the differences in the other measures of well-being favored the teachers invited to participate in the mindfulness course compared to teachers who did not receive an invite, the estimated effects are not statistically significant at the 95% confidence level. Moreover, the estimated effect on turnover intention was not statistically significant when measured two months after the mindfulness course ended.

One likely reason that receiving an invitation to the mindfulness course did not result in lasting positive impacts was limited participation in the course. A small percentage of teachers (approximately 5.5%) who were invited actually participated in the course. Among those who did participate, engagement varied significantly—with nearly half attending only one session during fall 2021.

We found no impact on teacher retention rates between those who participated in the mindfulness course and those who did not by the start of the following school year, indicating that the course did not have a lasting effect on teachers' decisions to remain in their positions. Participants in the mindfulness course were all female, more likely to identify as Black, and were more likely to hold a bachelor's degree as their highest credential. These differences suggest that certain demographic factors may influence participation in the mindfulness course and possibly affect engagement with mindfulness programs more generally.

Our findings highlight the need for strategies to increase participation rates and sustain benefits over time. Beginning in SY 2022-23, the district offered the mindfulness course to teachers throughout the entire school year rather than within an eight-week window. This change provided additional opportunities for participation and represents a potentially important step in effectively engaging teachers and increasing participation rates. Allowing participating teachers to take time off from their regular work day—perhaps as part of professional development or a "lunch and learn" session—could further enhance engagement with mindfulness programs. Additionally, offering certification for course completion, particularly if it counted as a Professional Learning Unit to

support teaching certificate renewal, could help boost participation in future mindfulness programs.

Acknowledgments

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Endnotes

1. Schonert-Reichl, K. A. (2017). Social and emotional learning and Teachers. *The Future of Children, 27*(1), 137–155.

2. Sokal, L. J., Trudel, L. G. E., & Babb, J. C. (2020). Supporting teachers in times of change: The job demands-resources model and teacher burnout during the COVID-19 pandemic. *International Journal of Contemporary Education, 3*(2), 67–74.

3. For example, Jennings, P. A., Brown, J. L., Frank, J. L., Doyle, S., Oh, Y., Davis, R., Rasheed, D., DeWeese, A., DeMauro, A. A., Cham, H., & Greenberg, M. T. (2017). Impacts of the CARE for teachers program on teachers' social and emotional competence and classroom interactions. *Journal of Educational Psychology, 109*(7), 1010–1028.

4. Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research, 79*(1), 491–525.

5. We compare outcomes for teachers who were invited and participated in the mindfulness course with teachers who were not invited and did not participate by estimating a local average treatment effect (LATE). LATE estimation relies on the instrument-induced variation in treatment to isolate the effect for compilers. Compilers are teachers whose participation in the mindfulness course aligns with being invited to participate and teachers who did not participate and were not invited to participate.

6. A very small number of teachers in the control group ended up participating in one or more sessions. We included these teachers in the group of participants, meaning that most—but not all—of the control group teachers are classified as non-participants in this analysis.

About the Authors

Kate Caton

Kate Caton was a graduate research assistant with the Georgia Policy Labs. They were selected as a 2019 Society for Research on Educational Effectiveness summer fellow and have previously worked with the Urban Child Study Center at Georgia State University.

C. Kevin Fortner

C. Kevin Fortner is an associate professor in the Department of Educational Policy Studies in the College of Education and Human Development at Georgia State University and a fellow with the Georgia Policy Labs. His research interests include teacher effectiveness and persistence, the effects of peers on student outcomes, and program evaluation. His work has been published in a variety of journals, including Science, Educational Researcher, and Educational Evaluation and Policy Analysis. He has received external funding for program evaluation related to urban debate league, estimating the effectiveness of teacher training programs in North Carolina, and estimating future demand for pre-K student services.

Thomas Goldring

Thomas Goldring is the director of research at the Georgia Policy Labs. He supports the faculty directors in managing research projects and providing analytical and technical support across GPL's three components. His research focuses on K–12 education, including educational accountability, school finance, and graduation rates; early childhood education; career and technical education; post-secondary education; and education and mortality. He received his doctorate in public policy and management from Carnegie Mellon University and completed a post-doctoral fellowship at the University of Michigan.

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