

Mindsets about remote work, but not intelligence, predict emotional adjustment to remote work during the COVID-19 pandemic

In the aftermath of COVID-19, many predict that remote work will be the “new normal,” making it essential to understand predictors of employees’ adjustment to remote work. The current research examines employees’ fundamental beliefs – or *mindsets* – about the nature of remote work as one such predictor. We propose that employees differ in the extent to which they believe that there is a kind of person who is well-suited to working remotely and that someone simply either is or is not that kind of person. We predict that employees who endorse this mindset, rather than viewing remote work as a skill that a person can learn and develop, will struggle more with remote work. Our prediction is supported by a large psychological literature showing that the extent to which individuals believe that a personal quality (e.g., intelligence) can be changed or developed (a *growth mindset*), rather than a quality that is set in stone (a *fixed mindset*), predicts motivation and performance in a wide variety of contexts (1).

Research on mindsets suggests that one route through which holding a fixed mindset undermines individuals’ motivation and performance is by shaping how individuals interpret the challenges they face (2). Individuals who hold a fixed mindset about a personal quality – such as the skill to work remotely – tend to interpret challenges that arise as a sign that they lack this desirable quality, and this makes setbacks personally distressing. For example, when individuals who hold a fixed mindset about intelligence fail a test, these individuals are more likely to see this setback as reflecting poorly on their self (e.g., as a sign that they are not smart), and accordingly, individuals with more fixed mindsets feel more upset by these setbacks (3, 4). Thus, individuals who hold fixed mindsets about remote work may see any struggles that naturally arise in the transition to remote work (e.g., difficulty concentrating, feelings of loneliness) as a sign that they are the kind of person who is simply not suited for remote work, and accordingly may tend to feel greater frustration, guilt, or anxiety during remote work. Individuals with a more fixed mindset about remote work may also readily lose enthusiasm and excitement about their work, as they may tend to interpret any challenges as a sign that they are simply not good at remote work and accordingly become less energized by remote work (1).

Hypothesis 1: Employees who hold a more fixed mindset about remote work will experience more negative emotion while working remotely.

Hypothesis 2: Employees who hold a more fixed mindset about remote work will experience less positive emotion while working remotely.

Further, past research suggests that the emotions employees experience during remote work should be consequential for employees’ productivity during remote work. Generally in the workplace, negative emotions have detrimental effects on performance (5, 6), while positive emotions increase performance (7, 8). Thus, employees who have a fixed mindset may feel less productive during remote work because of increased negative and decreased positive emotion.

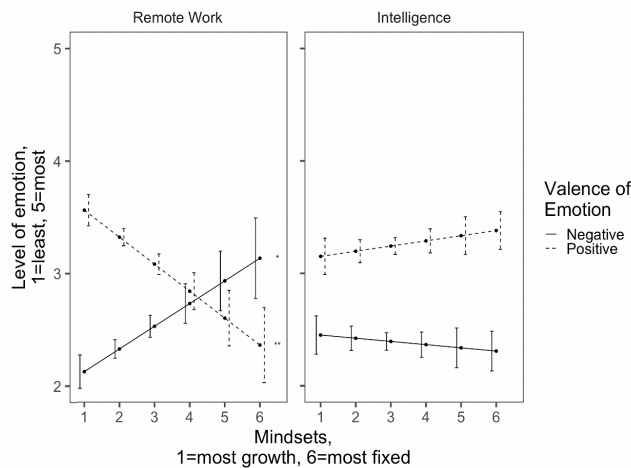
Hypothesis 3: Employees who hold a more fixed mindset about remote work will feel less productive during remote work because of the increased negative and decreased positive emotion that they experience during remote work.

To test these ideas, we recruited 113 employees from Switzerland (68.1% women, 31.9% men, $M_{Age}=36.82$, $SD=8.85$) through announcements (e.g., on LinkedIn) that invited employees working remotely in Switzerland because of the COVID-19 pandemic to participate in a longitudinal study. In a baseline survey, participants completed mindset measures, demographics, and relevant control variables (e.g., personality). Then, participants completed weekly surveys containing similar questions for three weeks.

Two measures that assessed the extent to which participants held fixed mindsets about remote work and intelligence. We adapted 3 items from Dweck’s (1999) scale, e.g., “You are either the kind of person who is good at working remotely or not and you can’t really do much to change it,” $\alpha=0.87$, 1=*strongly disagree*, 6=*strongly agree*). To test whether domain-specific mindsets about remote work are uniquely predictive of outcomes in home office, we also included Dweck’s (1999) scale used to measure fixed mindsets about intelligence (3 items, $\alpha=0.90$). To capture participants’ emotions, participants answered the question: “How often did you feel the following emotions while working over the last week?” (1=*never*, 5=*very often*) about five positive emotions (enthusiastic, excited, inspired, determined, alert, $\alpha_{\text{Week1}}=0.81$, $\alpha_{\text{Week2}}=0.83$, $\alpha_{\text{Week3}}=0.83$) and five negative emotions (irritable, anxious, guilty, upset, frustrated, $\alpha_{\text{Week1}}=0.84$, $\alpha_{\text{Week2}}=0.83$, $\alpha_{\text{Week3}}=0.83$). We measured participants’ perceptions of their productivity during remote work through two items, e.g., “How productive or unproductive were you over the past week?” (1=*very unproductive*, 7=*very productive*, $r_{\text{Time1}}=0.45$, $p<0.001$, $r_{\text{Time2}}=0.63$, $p<0.001$, $r_{\text{Time2}}=0.65$, $p<0.001$). Since measures were collected over the course of three weeks, we time lagged the variables of positive and negative emotion so that we tested how emotions in Week 1 predicted productivity in Week 2, and how emotions in Week 2 predicted productivity in Week 3, controlling for same-week positive and negative emotion. This allows us to test whether positive and negative emotions seemed to have a subsequent effect on productivity in following weeks.

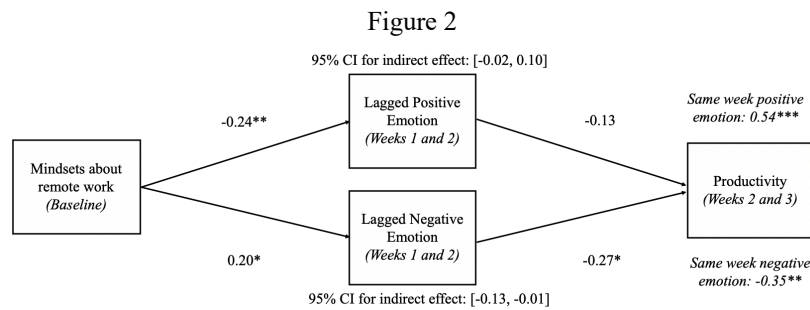
Employees who endorsed a more fixed mindset about remote work experienced more negative emotion during remote work, $B=0.20$, 95% confidence interval (CI): [0.04, 0.37], $SE=0.10$, $t(66.00)=2.12$, $p=0.038$, supporting Hypothesis 1. Employees who endorsed a more fixed mindset about remote work also experienced less positive emotion during remote work, $B=-0.24$, 95% CI: [-0.39, -0.09], $SE=0.09$, $t(66.00)=-2.69$, $p=0.009$, supporting Hypothesis 2. Notably, the extent to which employees endorsed a fixed mindset about intelligence did not predict negative emotion during remote work, $B=-0.03$, 95% CI: [-0.16, 0.11], $SE=0.08$, $t(66.00)=-0.37$, $p=0.715$, or the positive emotion during remote work, $B=0.05$, 95% CI: [-0.08, 0.17], $SE=0.07$, $t(66.00)=0.62$, $p=0.536$. This suggests that effects were specific to mindsets about remote work rather than mindsets about other traits more broadly. See Figure 1.

Figure 1: *Employees who endorsed a more fixed mindset about remote work felt less positive and more negative emotions while working remotely because of the COVID-19 pandemic; in contrast, employees’ endorsement of a fixed mindset about intelligence did not predict positive or negative emotions during remote work.*



Note. + indicates $p < 0.10$, * indicates $p < 0.05$, ** indicates $p < 0.01$, *** indicates $p < 0.001$. Error bars represent the standard error of the mean.

To test Hypothesis 3, we created a 95% confidence interval for the indirect effect of mindsets on productivity through increased negative emotion using 5,000 samples. This confidence interval did not include zero: [-0.13, -0.01], supporting our mediational hypothesis. We then created a 95% confidence interval for the indirect effect of mindsets on productivity through decreased positive emotion using 5,000 samples and it did include zero: [-0.02, 0.10], thus suggesting that fixed mindsets about remote work mainly decreased productivity in subsequent weeks because these mindsets prompted increase negative emotion in prior weeks, rather than because these mindsets reduced positive emotion in prior weeks. See Figure 2.



Note. * indicates $p < 0.05$, ** indicates $p < 0.01$, *** indicates $p < 0.001$. Measures of positive and negative emotion were time lagged so that positive and negative emotions in Week 1 predicted productivity in Week 2, and positive and negative emotions in Week 2 predicted productivity in Week 3, controlling for same-week positive and negative emotion.

During the COVID-19 pandemic, employees who were required to rapidly adjust to remote work fared better when they held the mindset that remote work is a skill that can be learned and developed, rather than something that is set in stone. Employees who agreed that people simply either are or are not the kind of person who can work remotely tended to feel more negative and less positive emotion during the course of remote work. Further, the increased negative emotion that employees with this mindset experienced tended to undermine their productivity in subsequent weeks. This research thus pinpoints mindsets about remote work as a potentially fruitful point for intervention when companies transition employees to remote work.

While the current research was conducted under extreme circumstances, as employees began remote work in a global crisis, the findings could extend to employees who are shifting to remote work for a variety of reasons. How mindsets about remote work predict outcomes under more mundane circumstances should be examined in future research. Although perceived productivity, as measured in this study, is often predictive of actual performance (9), future studies that complement these findings by examining measures of objective productivity (e.g., quality or quantity of work produced) would also be beneficial. Finally, research is needed to examine interventions to change a fixed mindset about remote work.

To create a brighter future of work, organizations should consider how employee mindsets affect responses to changes in the nature and structure of work, such as increased opportunities for remote work. Remote work may be readily embraced by employees who believe people can develop what it takes to work remotely, but risks disadvantaging those who view remote work as an immutable skill. Organizations that cultivate adaptive mindsets about remote work may help employees to thrive in times of crisis and times of greater stability.

References

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