

Please cite this article as:

Venkatesh, V., Ganster, D.C., Schuetz, S.W., and Sykes, T.A. "Risks and Rewards of Conscientiousness During the COVID-19 Pandemic," *Journal of Applied Psychology* (106:5), 2021, 643-656.

<https://doi.org/10.1037/apl0000919>

Risks and Rewards of Conscientiousness During the COVID-19 Pandemic

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Abstract

Highly conscientious workers are more motivated and productive than their less conscientious colleagues. Moreover, conscientious employees tend to be more satisfied and less stressed from their work. One consequence of the COVID-19 pandemic, however, is that many workers have transitioned to working remotely, often under conditions of less direct supervision and less clarity about expected work activities and outcomes. We proposed that this significant change in work context constitutes a weakening of situational strength that can change the relationship of conscientiousness with job strain, job satisfaction, and job performance. Using Meyer et al.'s (2010) conceptualization of situational strength, we tested the moderating effect of situational strength by surveying 474 white collar employees in a Fortune-1000 firm in 2019 and again in 2020 after they had all transitioned to working remotely. We found that the changes in work context due to COVID-19 significantly lowered scores on situational strength and this was accompanied by a stronger positive effect of conscientiousness on performance. Importantly, during COVID-19, the relationships of conscientiousness with strain and satisfaction showed a reversal of sign, with more conscientious workers reporting higher strain and lower satisfaction. These effects were partially mediated by job demands and were replicated with work hours. The results provide a test of situational strength theory and suggest that changes in situational strength due to COVID-19 may cause an organization's most conscientious employees to be at elevated risk for burnout and dissatisfaction, and consequently, turnover, if not managed appropriately.

Keywords: Conscientiousness, situational strength, performance, satisfaction, strain

Since Barrick and Mount's (1991) meta-analysis almost three decades ago, the study of personality traits in the organizational sciences has experienced a resurgence. Much of this attention has focused on conscientiousness, and for good reason. One of the Big-5 traits, conscientiousness is consistently linked to job performance. In fact, the preponderance of early evidence suggested that it was one of the strongest predictors of performance, rivaled only by cognitive ability (Schmidt & Hunter, 1998). Recently, Wilmot and Ones (2019) conducted a comprehensive compilation of meta-analyses that examined the relationship of conscientiousness with a wide range of behavioral and attitudinal outcomes, including job performance, counterproductivity, and attitudes and well-being. Conscientiousness showed significant relationships in 98% of the 175 occupational variables examined. Conscientiousness was not only linked to higher job performance and lower levels of counterproductive behaviors, but also positively related to job satisfaction and organizational commitment. Finally, conscientious individuals were shown to suffer lower levels of burnout, enjoy better work-life balance, and demonstrate a somewhat higher tolerance for stress (Wilmot & Ones, 2019). In summary, an abundance of evidence suggests that conscientiousness is a highly desirable trait, benefiting not only employing organizations, but also the employee's own well-being.

Despite this panoply of favorable outcomes, there are situations in which being highly conscientious can take a toll on an individual's well-being. We contend that one such situation has been created by the COVID-19 pandemic (hereafter COVID) that triggered a massive shift in work patterns for a significant portion of the working population. We argue that the disruption of work induced by COVID, especially the shift to remote work and concomitant changes such as less direct supervision and less clarity of activities and work outcomes, manifests as a weakening of situational strength. This renders conscientious workers more sensitive to job demands, defined as subjective judgments of workload (Caplan et al., 1975), owing to greater ambiguity regarding what and how much work needs to be done. To test such underlying hypotheses, we examined how these contextual changes due to COVID, that produced a lower

situational strength, affected how the key trait of conscientiousness related to job demands, well-being, and job performance. Our study uses the unique naturally occurring quasi-experiment created by the pandemic to test the critical role of context in determining the relationships among these important work-related variables (Johns, 2006; Johns, 2017).

Our paper unfolds as follows. First, we briefly review the literature examining conscientiousness and its relationships to work motivation, well-being, and job performance. We then develop a set of hypotheses, based on situational strength theory, that posit that contextual changes due to COVID lead to an intensification of the relationship between conscientiousness and job demands. Although we expect a more positive association with job performance, we expect it to be accompanied by a reversal of its relationships with job strain and job satisfaction.

Conscientiousness as a Predictor of Work Motivation, Job Performance, and Well-Being

Conscientious workers are highly motivated, which is a key antecedent of performance and well-being. A meta-analysis of 5 studies with a total N of 1,807 (Clark et al., 2016) shows a corrected correlation of .16 with workaholism and another meta-analysis with a total N of 12,236 shows a corrected correlation of .23 with other-rated effort ratings (Rojon et al., 2015). The latter meta-analysis is especially relevant to our study in that the measures of effort they examined consisted of ratings by others of hard work and willingness to work long hours. Another meta-analysis by Judge and Ilies (2002) found that conscientiousness was positively correlated with motivational measures representing three different theoretical approaches related to motivation (i.e., expectancy, goal-setting, and self-efficacy).

Conscientiousness is a consistent correlate of overall job performance. Since the Barrick and Mount (1991) meta-analysis, over 20 subsequent meta-analyses have assessed the relationship between conscientiousness and a range of overall job performance measures. Wilmot and Ones (2019) recently compiled and summarized these meta-analyses and report that across 10 meta-analyses involving 74,835 individuals, the mean corrected correlation with

supervisor ratings of overall performance is .27, with an 80% credibility interval ranging from .22 to .33. Similarly, high corrected correlations exist for peer ratings and self-ratings.

Despite working harder, more conscientious workers enjoy higher levels of general well-being, as reflected in higher job satisfaction, better work-life balance, lower burnout, higher career and life satisfaction, and greater overall quality of life (Wilmot & Ones, 2019). Moreover, conscientious employees perform better under stressful situations in assessment center exercises (Wilmot & Ones, 2019). Conscientious individuals also fare well in terms of more distal markers of well-being. They have better health and live longer (Bogg & Roberts, 2013) and they are less likely to suffer dementia in old age (Kaup et al., 2019).

Conscientious individuals would seem to have it all. They are more motivated, their performance is rated higher, and they are better off in terms of both proximal and distal markers of well-being. But, how are conscientious workers affected by the dramatic changes in their work routines engendered by the COVID pandemic? Drawing on situational strength theory (Meyer et al., 2010), we present arguments to explain why conscientiousness will show stronger associations with job demands and performance during the pandemic and why the well-being advantage enjoyed by conscientious workers may be erased and actually reversed.

Importance of Context and Situational Strength Theory

Elements of the context in which a research study is conducted can have a significant impact on the strength, shape, and even direction of relationships investigated. Since Johns (2006) first promoted these arguments much more attention has been paid to articulating, measuring, and assessing the role of context in research findings. Yet, Johns (2017) lamented that the impact of context on organizational behavior “is underrecognized and underappreciated” (p. 577). A specific approach to conceptualizing context in the realm of personality traits is the theory of situational strength (Meyer et al., 2010).

Meyer et al. (2010) define situational strength as “implicit or explicit cues provided by external entities regarding the desirability of potential behaviors” (p. 122). Essentially, the

strength of a situation determines the extent to which a personality trait determines behavior – having little impact when the forces of a strong situation overwhelm individual differences and having a stronger impact when such forces are weaker. Although this perspective has been around for a long time (Mischel, 1977), Meyer et al. (2010) argue that the conceptualization of situational strength has been inchoate and its operationalization diverse and difficult to integrate. They proposed a model for situational strength consisting of four facets: clarity, consistency, constraints, and consequences (Meyer et al., 2010, 2014). They defined *clarity* as the availability of cues about work-related responsibilities, *consistency* as the compatibility of work-related responsibilities and requirements, *constraints* as the extent that individuals have discretion regarding how or when they perform their job responsibilities, and *consequences* as the extent that their decisions have definite positive or negative outcomes for the employees.

Effects of COVID on Situational Strength

We argue that the work routine changes due to COVID are associated with weaker situational strength than before the pandemic. According to Event Systems Theory (EST; Morgeson et al., 2015), events that are novel, disruptive, and critical have the capacity to change or create new employee behavior patterns in organizations. COVID meets the EST definition of a critical event – it is an environmental feature with a discrete beginning and (hopefully) an end. Moreover, the pandemic embodies the components of novelty, disruption, and criticality that determine an event's strength and hence its ability to produce new behavioral patterns (see also McFarland et al., 2020). One of the important behavioral patterns affected by COVID is the mandatory transition from working in traditional office settings to working from home (Brynjolfsson et al., 2020) and, as mentioned earlier, concomitant changes to patterns of work and routines of employees. The pandemic has forced 24% of the entire U.S. workforce and 42% of workers classified as management, professional, and related occupations to work remotely as of August 2020, a segment comprising over 60 million workers (U.S. Bureau of Labor Statistics, 2020, Table 2). Moreover, surveys of business owners suggest that as many

as half of them expect to continue with remote work even after the pandemic subsides (Bartik et al., 2020; Conger, 2020; Khetarpal, 2020). In our study, all workers transitioned from traditional office-based work in 2019 to remote work in 2020. We hypothesize that one consequence of this transition to remote work, especially during COVID, is a weakening of situational strength. There is reason to believe that the transition to remote work could affect each of the four facets of situational strength proposed by Meyer et al. (2010). Aside from the lack of a scheduled physical presence in an office, the remote work context is characterized by less close supervision and fewer social cues about how much work needs to be accomplished, resulting in less clarity. The turbulent environment in which organizations function during COVID calls for continuous adaptation to problems, thus resulting in less consistency. Some organizations have been impelled by COVID to give employees' greater latitude in setting work hours, efforts applied to the job, and how to accomplish some job tasks, thus resulting in fewer constraints. There may also be a drop in the predictability of consequences because outcomes (due to specific actions) that were positive pre-COVID may be less so during-COVID. Thus, in terms of Meyer et al.'s (2010) four facets, we predict an overall weakening of situational strength.

H1: Situational strength will be lower during-COVID than pre-COVID.

Effects of the COVID Pandemic on Job Demands, Well-being, and Job Performance

In any situation, workers are faced with questions such as, "How much needs to be done? How hard do I need to work?" In the weaker situation created by COVID, consistent with situational theory, interpretations about job demands are more apt to be influenced by workers' personality (Meyer et al., 2010). This idea is compounded by the pandemic-induced move to remote work and concomitant changes that ushered in a shift, and often a rise, in job demands (Singer-Velush et al., 2020), which may include conscientious workers being assigned more demanding tasks. Less constrained by situational cues about when they should work, how much they should accomplish, and how their work fits into the broader picture of a turbulent organizational environment, we expect more conscientiousness workers to experience greater

job demands during COVID, especially when situational strength is lower. Further, conscientious workers, due to their higher achievement motivation and desire to meet high expectations, are more likely to perceive higher job demands than less conscientious workers do. They are also more likely to perceive that, due to the pandemic, there is more work to be done and that longer hours are expected of them. This is consistent with their tendency toward workaholism (Clark et al., 2016). Thus, while situational strength will typically moderate the effect of conscientiousness on job demands, the weakening situation of COVID will accentuate this interaction effect.

H2. Situational strength, conscientiousness, and time (pre- vs. during-COVID) will have an interactive effect on job demands. Specifically, the positive effect of conscientiousness on demands will be stronger (vs. weaker) at lower (vs. higher) levels of situational strength, and these effects will be stronger (vs. weaker) during-COVID (vs. pre-COVID).

Living and working during COVID has been shown to be stressful for most people (American Psychological Association, 2020; Salari et al., 2020). Although we expect to see these increased demands to increase average job strain and lower job satisfaction (see Ganster & Rosen, 2013), our particular interest lies in examining the differential effects of situational strength and COVID on more conscientious workers. Conscientiousness is typically associated with better well-being, including less experienced job strain and higher job satisfaction. During COVID, however, we expect to see these relationships reverse. Johns (2006) specifically noted that contextual change can cause a reversal of signs of relationships or make effects stronger (or weaker), and we believe that the COVID-induced work changes represent such a contextual change due to their disruptive nature. The increased job demands, especially combined with lowering of situational strength, are likely to take a greater toll on more conscientious workers precisely because of their greater propensity to try to accomplish more. Lin et al. (2015) referred to this effect as a “double-edged sword,” and indeed they found that highly conscientious workers responded to job demands (challenge stressors) with higher job performance and

higher levels of psychological strain. However, they did not assess situational strength, so there is no way of knowing whether situational strength, let alone during COVID, would affect this relationship. Building on our situational strength arguments, we expect the higher job demands during COVID to vitiate the well-being advantage of high conscientiousness, with an actual reversal of effects.

H3: The interactive effects of conscientiousness, situational strength, and time (pre- vs. during-COVID) on work outcomes will be mediated by job demands. Specifically: (a) the effect of conscientiousness on the outcomes will be stronger (vs. weaker) when situational strength is lower (vs. higher), with the effects being even stronger (vs. weaker) during-COVID (vs. pre-COVID), and (b) there will be a reversal of effects for well-being outcomes during-COVID.

Our moderated mediation model that reflects these hypotheses is displayed in Figure 1.

-- Insert Figure 1 about here --

Method

We tested our hypotheses in a two-wave field study, with data collected in July 2019 (pre-COVID) and in July 2020 (during-COVID) after workers in this sample had moved from a traditional office environment (2019) to complete remote work (March 2020), per company policy. This COVID-induced shift is a work context change that we believe led to a change in situational strength, the impact of which we examine with pre- and during-COVID data.

Participants and Procedure

Our sampling frame was a list of 1,720 employees with a basic job title of franchisee liaisons of a Fortune-1000 firm in the hospitality industry, all of whom were within the organization's grade/rank for this title. The hospitality industry was one of the hardest hit by the pandemic and thus the role of the franchisee liaisons became critical both to franchisees and the corporate office. In their job roles, the participants dealt with ongoing challenges faced by franchisees of various sizes in their effort to continue to keep their businesses open and/or find ways to survive. The corporate office expected the liaisons to keep the franchisees with the firm,

rather than having the franchisees rebrand and join a competitor. Examples of rebranding abound in various industries even in the best of times. For example, a Courtyard hotel franchisee could opt to end its contract with Marriott and switch to Hilton; a franchisee UPS store could switch to provide services by affiliating with FedEx instead. Some tasks of liaisons thus became different and less clear during COVID, as they sought to find ways of helping franchisees survive, rather than their pre-COVID focus of helping franchisees primarily with promotional materials and sales strategies. With standard franchising contracts having to be put on hold or renegotiated for varying periods of time, and the impacts being different for franchisees in different geographical locations, the liaisons were given flexibility by the corporate office to revise existing contracts. What the liaisons could offer the franchisees was a moving target and subject to redefinition by the corporate office and through ongoing discussion among liaisons with the corporate office, both individually and as units, as the pandemic unfolded.

The data collection was coordinated by the firm through an external agency, with participants providing informed consent in both waves and only summary statistics being shared with the firm (IRB University of Arkansas 2019, A taxonomy of data breaches, IRB#1904189702; University of Arkansas IRB 2020, Coping with the coronavirus pandemic, IRB# 1806128736). We received 680 usable responses from liaisons to our wave 1 survey (pre-COVID). Over two weeks in July 2019, we measured the independent variables; and two weeks later, we measured the dependent variables. We contacted those who responded to the wave 1 survey and solicited their participation in the wave 2 survey (during-COVID). Spaced two weeks apart and over two weeks each in July 2020, they provided responses to the questions measuring the same set of independent and dependent variables. Of those who participated in the wave 1 survey, 474 provided usable responses in the wave 2 survey. Supervisor-rated employee performance data were obtained from annual performance reviews conducted around the same time as our surveys both in 2019 and 2020. The demographic characteristics across the sampling frame (41% women; average employee age: 35.40; 24% non-white), the wave 1

sample, and the wave 2 sample were similar. The dropouts between waves 1 and 2 were attributable to turnover, not being in the same job in both waves or choosing not to participate in wave 2. Finally, there were no differences on key study variables between the dropouts after wave 1 and the rest of the sample.

Measures

Measures for the constructs in our model, namely situational strength (Meyer et al., 2014),¹ conscientiousness (John & Srivastava, 1999), job demands (Caplan et al., 1975), job strain (Maslach et al., 1996), and job satisfaction (Hackman & Oldham, 1976), were drawn from prior research. To conduct a robustness check, we obtained archival weekly average work hours data (a more objective measure for demands) for the 4-month period during-COVID (mid-March to mid-July 2020) and the corresponding period in 2019. These were from self-reports by employees, as part of their work hour and leave filing, which was required to be completed weekly by company policy. Although self-reported, each employee's manager reviews and approves these weekly reports, and thus they can reasonably be expected to be accurate. Employee performance was obtained with employee consent as a summary/overall score from each of the two years. The items were shared with us to enable our understanding and indicated an assessment of effectiveness (supervisor-rated), efficiency (supervisor-rated), accuracy (supervisor-rated), and franchisee satisfaction reports (archival from franchisee satisfaction surveys). The first three items used in the performance measure are consistent with the scale of Welbourne et al. (1998). The performance data provided to us were not at the item level (the Cronbach's alpha reported to us for the sample was .76 and .75 in 2019 and 2020, respectively). These measures are listed in Appendix 1.² All scales were reliable (Table 1) both in 2019 and 2020, with Cronbach alpha values exceeding .70.

Results

We analyzed the data using SPSS, version 26. Consistent with H1, the mean of overall situational strength was significantly lower during-COVID ($M = 4.37$) than it was pre-COVID (M

= 4.99, $t = 5.33$, $p < .01$). We also examined the means of the individual facets to gain further insight into the specific ways that situational strength changed during-COVID. All four facets showed a reduction in means, and three were significantly different (clarity: $t = 8.35$, $p < .01$; constraints: $t = 11.44$, $p < .01$; consequences: $t = 2.08$, $p < .05$). The overall situational strength and the means of the four dimensions pre- and during-COVID and the associated differences are displayed in Table 2. From Table 1, we can also see that during-COVID there is an increase in job demands, work hours, job strain, and job performance (small), and a lowering of job satisfaction.

-- Insert Tables 1 and 2 about here --

To test H2, we computed generalized estimating equations (GEE; Ballinger, 2004) in order to account for the non-independence of the repeated observations using the combined pre-COVID and during-COVID responses. The results of this regression are displayed in Table 3. Tables 4 and 5 show the results broken down by year and additional insights into the patterns in each year. Supporting H2, the three-way interaction ($B = -.29$, $p < .01$) was significant. A comparison of the results in Tables 4 and 5 reveal that the conscientiousness effect on demands was stronger during-COVID. The plots of the interaction, displayed in Figure 2, show that the conscientiousness X situational strength interaction in both periods was such that more conscientious workers reported higher job demands when situational strength was lower. In contrast, when situational strength was higher, more conscientious workers reported lower job demands. The pattern observed for low situational strength is more pronounced during-COVID, with high conscientiousness workers during-COVID reporting the highest level of job demands. These differences were also confirmed by simple slopes tests, with the most critical difference being the low situational strength during-COVID line being different from all others.

To test H3, we computed the indirect, direct, and total effects of conscientiousness on work outcomes using PROCESS and specifically using model 7 for the data from 2019 and 2020 (Hayes, 2017). These effects are displayed in Table 6. In terms of H3, H3(a) was

supported for all 3 outcomes both pre- and during-COVID, with the exception of a stronger total effect for job strain when situational strength was high in the pre-COVID time period. Even here, it should be noted that, pre-COVID, more conscientious workers experienced lower strain when situational strength was high, which is consistent with the idea underlying the favorable impact of high situational strength. In terms of H3(b), compared to pre-COVID, during-COVID there was a reversal of effects for job strain and job satisfaction.

We took a deeper dive into Table 6 to understand the specific patterns. We see that in both periods, the relationship between conscientiousness and performance was more positive when situational strength was low, suggesting that more conscientious workers rise to the occasion and perform well, as predicted. Although true in both periods, the effects on performance were stronger during-COVID (vs. pre-COVID) when situational strength was generally lower. In terms of well-being, however, there were much stronger negative effects during-COVID (vs. pre-COVID). Specifically, pre-COVID, conscientiousness had a negative relationship with job strain when situational strength was high and no effect when situational strength was low. However, during-COVID, this effect reversed, with conscientiousness having a strong positive effect on strain, with the effect being much stronger when situational strength was low. The stronger harmful effects for conscientious workers during-COVID were similar in the case of job satisfaction. Conscientiousness had a weak positive relationship with job satisfaction pre-COVID when situational strength was low and a stronger positive relationship when situational strength was high. However, during-COVID, these effects became much stronger and negative. In sum, the disparity in effects between low and high situational strength was greater during-COVID.

Table 6, along with the results from Tables 3 through 5, also shows a pattern of partial mediation (indirect effects) of the effects of conscientiousness through job demands for all three outcomes. Compared to pre-COVID, the during-COVID effects, both direct and indirect, were all

stronger and had non-zero CI ranges in all cases, with the effects being even stronger when situational strength was lower.

-- Insert Tables 3 to 6 and Figure 2 about here --

In order to gauge the robustness of our findings, we replicated the analyses using work hours as the measure of job demands. These results are reported in Appendix 2 (Tables 1 to 4), and show the same pattern as found and reported in Tables 3 through 6 with a perceptual measure of job demands as the mediator.

Discussion

The COVID pandemic presents an unplanned quasi-experiment allowing the examination of context, as manifested in situational strength, on the role of personality in influencing performance and well-being. We found that conscientiousness showed a significantly stronger association with job performance during-COVID than pre-COVID, and this difference was partially mediated by more conscientious workers reporting greater demands and working more hours during the pandemic. Additionally, conscientiousness showed a reversal of association with job strain and job satisfaction. Conscientiousness is typically seen as a personal resource associated with lower levels of strain and higher satisfaction. During the unique work situation caused by COVID, however, conscientiousness presented as more of a personal liability, with highly conscientious workers experiencing more strain and less satisfaction than less conscientious workers.

Theoretical Contributions

Our study makes several contributions to theory. First, in their review of the situational strength hypothesis, Cooper and Withey (2009) argued that “despite its 30-year history, it remains only a hypothesis” (p. 68). A significant impediment to testing this hypothesis has been the lack of a coherent model. As Funder (2008) noted, “...situational variables examined in published research are almost completely ad hoc” (p. 571). Meyer et al. (2014) made significant progress in this regard by developing and carefully validating a multidimensional measure of

situational strength and showing it moderates personality's relationships with counterproductive behaviors and organizational citizenship. Aside from Meyer et al.'s (2014) test of moderator effects, however, other tests of situational strength based on this model (but not the measure) have been at the occupational level (Judge & Zapata, 2015; Meyer et al., 2009). In the present study, situational strength moderated the relationship of conscientiousness with work outcomes both pre- and during-COVID, thus supporting the role of situational strength at the individual level of analysis and providing empirical support for the Meyer et al. (2010) model. Cooper and Withey (2009) further argued that rigorous tests of the hypothesis required a range of situations in which situational strength significantly varied, or even better, was manipulated. We contend that the naturally occurring quasi-experiment created by the COVID pandemic approximates this condition. Our study is thus one of the first such tests, with the key strength being that it is a naturally occurring field quasi-experiment of the situational strength hypothesis in which participants served as their own controls and continued to work in the same jobs.

Second, the contextual shift due to COVID was associated with a reversal of effects, which also became stronger, for conscientiousness on job strain and job satisfaction, which are consistent with our core arguments about the vitiation of well-being outcomes and the types of context effects suggested by Johns (2006). Conscientiousness had a small negative relationship with job strain pre-COVID, and this relationship was virtually zero under low situational strength, but this relationship became much stronger and positive during-COVID. This harmful effect of low situational strength, especially during-COVID, was also observed with job satisfaction. During-COVID, conscientiousness had a strong negative relationship with satisfaction, with the negative effect being even stronger under conditions of low situational strength. Such strong negative effects due to COVID, although interesting, are concerning. This pattern is especially worrisome against the backdrop of the effect of conscientiousness on job performance, wherein conscientiousness had a stronger effect on performance when situational strength was low in both years, yet this effect was significantly stronger during-COVID.

Nonetheless, it should be noted that variables aside from situational strength or those captured in our model, such as the existential threat of losing their job or the organization going bankrupt, could have caused the observed effects. Future research should explore these options including a comparison to workers who shifted to remote work prior to COVID and a comparison to workers after the pandemic abates.

Third, our study tested and supported mediational mechanisms that at least partially explain the situational strength moderator effects. We found that, in a weaker situation, with the reduced clarity about expected effort levels and consequences of output during COVID, combined with lower levels of constraints, more conscientious employees reported higher demands. These work pressures were associated with more job strain and lower satisfaction but higher performance. For all three outcomes, job demands (or work hours) partially mediated the effects of conscientiousness on all three work outcomes. However, the residual direct effects of conscientiousness during COVID suggest that other mediational processes are also at play. This finding serves as a call for research on identifying additional mediators (i.e., beyond job demands or work hours) that carry the effect of conscientiousness on work outcomes.

A strength of the present study is that there was an objective contextual change associated with COVID that was associated with a lessening of average situational strength. Meyer et al. (2020) stress that not everyone perceives a situation in the same way, and this applies to situational strength as well. They note that an individual's perception of the situation is determinative of their response to it. Fortunately, we were able to demonstrate that individual perceptions of situational strength moderated the effects of conscientiousness both within and across the two periods. This also raises the question of whether personality traits, and conscientiousness in particular, can themselves shape one's perception of situational strength. This did not seem to be the case in our study, as conscientiousness showed only a weak ($r = .13$) relationship to situational strength pre-COVID and a non-significant one during-COVID ($r = .07$). Meyer et al. (2020) suggest that content-general operationalizations of personality strength

(e.g., self-monitoring) may explain perceptions of situational strength and even moderate its impact on trait-behavior relationships, and this is an interesting future research direction.

Practical Implications

Our results have significant practical implications. Conscientious employees are generally among the highest performing and most satisfied employees in the organization. Under weak situational conditions, such as when performing remote work during COVID, however, more conscientious workers may also be the most likely to experience higher strain and lower satisfaction. Untethered from a strong situation in which work hours are regulated and output expectations are clear, more conscientious employees are likely to experience higher job demands. When external expectations for effort and performance are less clear, more conscientious employees set higher internal standards for themselves that drive them to work harder and produce more. This high productivity may be desirable from the organization's perspective, but it may also come at the cost of increased burnout and consequent turnover of the organization's most valued employees. Further harmful consequences are possible if the high levels of strain sustain for longer periods of time, which is a distinct possibility given that remote work may extend for a long time to come and may even become a permanent feature in many organizations (e.g., Twitter) after the pandemic. How remote work is managed can vary greatly across organizations and even individual managers. An interesting discussion of remote work (he calls it distributed work) was provided by Matt Mullenweg, one of the co-founders of WordPress (Mullenweg, 2020). Briefly, he argues that remote work can be managed well or poorly, and he describes 5 different approaches. A theme that cuts across these 5 approaches is the level of autonomy that employees are afforded. Interestingly, in his 5th level, which he labels "Nirvana," one of the challenges he notes is that "people often struggle with unlimited freedom and often end up overworking." We think this applies especially to highly conscientious workers and this may be an issue with which organizations have to grapple even after the

pandemic passes, as remote work continues well into the future. One possible strategy for organizations is to devise ways of ensuring higher situational strength for remote workers.

Although the shift to remote work during COVID in our sample led to a weaker situation, this may not always be the case. The three facets of situational strength that significantly changed with the transition to remote work were clarity, constraints, and consequences, with the first two being associated with the extent that managers in this organization granted workers more autonomy during COVID. Whereas autonomy is generally seen as a positive job characteristic, it can have its downside in a remote environment in which workload expectations have become more open-ended. Faced with greater autonomy about when to work and how many hours one should work in a day, conscientious workers are apt to err on the high side. Again, although this enhanced motivation of conscientious workers appears to be associated with higher job performance, it comes at the cost of higher strain and lower satisfaction. Managers should thus be aware that conscientious workers working remotely may be working longer hours than expected and neglecting breaks and leisure activity. It is thus advised that managers monitor the work hours and well-being of their conscientious workers and set clear expectations about and limits for work hours. Policies, such as limiting or prohibiting emails and conference calls outside of work hours, could reinforce these expectations. Some technological tools already exist that provide such alerts and daily/weekly reports to employees, but supervisor monitoring of these may be helpful. It may require some organizational policy-level thought and discussion, as such close supervision could be seen as intrusive by employees even though it may be in their best interest from a well-being perspective. Beyond these measures, more than ever before, organizations will be well served to invest in wellness programs that highlight the perils of workaholism. Overall, the cost of harm to conscientious workers, who are arguably important assets of organizations, should not be underestimated, and remedial action is essential. Of course, the impact of such interventions should be carefully

understood, and they should be pursued with a degree of caution, as they could backfire among conscientious employees who are willing to endure the additional strain.

Limitations

As with any study, this work has some limitations. Although the transition to remote work during COVID was a naturally occurring quasi-experiment, there was no control group of employees who did not transition to remote work. Thus, respondents served as their own controls and the design has limited internal validity if viewed as just a simple pre-post comparison of main effects. Replicating our findings using work hours as a measure of job demands adds to the robustness of our findings. Moreover, job performance ratings were obtained from the respondents' managers, thus minimizing the likelihood of common method bias effects.

Our hypotheses were based on COVID producing a weaker situation than experienced pre-COVID. There are other changes that could possibly confound the findings. However, the role of situational strength as a key factor was empirically supported in our study, thus alleviating this concern to some extent. Finally, a strength of our study is that all respondents worked for the same organization under the same HR policies and in the same jobs. Although we consider this an advantage because it allows a sharper focus on situational strength and reduces some extraneous sources of variance, it limits the generalizability of our findings. The effects observed here might not generalize to other contexts in which employees are managed under different policies, regardless of whether work is remote or not. We thus cannot infer that COVID-induced remote work will always produce a weaker situational context, but we are more confident in generalizing the underlying model of personality-situational strength that we tested.

Conclusions

Leveraging a pandemic-induced transition to remote work, we demonstrated that this contextual shift was characterized by weaker situational strength that accentuated the relationship between conscientiousness and job performance while reversing the effects of

conscientiousness on job strain and job satisfaction. The findings also suggest that during COVID, although more conscientious workers may be more productive, they are more prone to burnout and dissatisfaction, and thus this critical organizational asset merits organizational attention and support.

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ENDNOTES

¹ We conducted a confirmatory factor analysis (CFA) to test the hypothesis that situational strength could be modeled as a second-order factor comprising clarity, consistency, constraints, and consequences as four first-order constructs. The four-factor structure of situational strength was first proposed by Meyer et al. (2010) and later confirmed in four studies by Meyer et al. (2014). Although Meyer et al. (2014) did not test a second-order specification, given the *four dimensions* were developed to capture situational strength (see Meyer et al. 2010, 2014), a second-order specification is plausible because a second-order specification would capture the overall construct that suitably reflects the combination of the four first-order factors. The second-order specification is in line with our construct delineation in the hypotheses. To validate the second-order specification, we compared that with a four-factor specification. The second-order specification provided a good fit for the data ($\chi^2(346) = 901.28$, CFI = .96, RMSEA = .05, SRMR = .04) and was a better fit than the first-order specification. Further, the underlying coefficients were all significant which confirmed that situational strength had four first-order factors. Additionally, we conducted a CFA to test for measurement equivalence across time periods and found that the time-varying factor loadings did not fit the data better than the model with fixed factor loadings. Thus, we conclude that the second-order factor specification, as outlined in our theoretical model, is supported.

² Several authors have questioned the common use of control variables (e.g., Becker, 2005; Berneth & Aguinis, 2016; Spector & Brannick, 2011), generally arguing for a “less is more” approach. We followed the Berneth and Aguinis (2016) guidelines for the inclusion of control variables. Following their flowchart, there was inadequate justification for inclusion of control variables. Thus, we report results of hypotheses tests without control variables. The reported results mirrored those we found even when control variables, i.e., gender, age, race, organizational position, organizational tenure, job control, supervisor change (from 2019 to 2020), and promotion (from 2019 to 2020), were included (available upon request from authors).

Tables

Table 1

Descriptive Statistics, Reliabilities, and Correlations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1 Gender	0.59	0.49	NA										
2 Age	31.86	11.02	.12*	NA									
3 Race	0.76	0.42	.18**	.19**	NA								
4 Org position	33.86	11.40	.17**	.19**	.21**	NA							
5 Org tenure	7.46	6.95	.15*	.16**	.23**	.18**	NA						
6 Job control 19	4.20	1.27	.16**	.19**	.10	.17**	.20**	.74					
7 Job control 20	4.07	1.02	.17**	.21**	.13*	.18**	.23**	.24**	.76				
8 Supervisor change	0.14	0.35	.08	.03	-.08	-.04	-.05	-.04	-.11*	NA			
9 Promotion	0.16	0.36	.11*	.12*	.13*	.08	.02	.03	.04	.09	NA		
10 Situational strength 19	4.99	1.81	.12*	.07	.11*	.13*	.06	.14*	.10	-.10	.09	.83	
11 Situational strength 20	4.37	1.77	.13*	.09	.12*	.18**	.08	.16**	.19**	-.12*	-.11*	.13*	.84
12 Conscientiousness	4.81	1.20	.09	.13*	-.05	.12*	.10	.08	.14*	.04	.03	.13*	.07
13 Job demands 19	4.17	1.46	.20**	.19**	.13*	.12*	.11*	.13*	.10	.12*	.15*	-.16**	-.10
14 Work hours 19	48.46	7.42	.19**	.24**	.08	.17**	.14*	.08	.07	.09	.07	-.13*	-.08
15 Job strain 19	4.44	1.71	.17**	.26**	-.11*	.31**	.13*	-.12*	-.10	.08	-.05	-.15*	-.12*
16 Job satisfaction 19	4.59	1.13	-.28**	-.24**	-.14*	-.17**	-.08	.12*	.19**	.05	.20**	.18**	.14*
17 Job performance 19	5.17	1.14	.21**	.17**	.14*	.19**	.10	.14*	.13*	.06	.17**	.15*	.13*
18 Job demands 20	5.19	0.94	.36**	.21**	.15*	.20**	.08	.10	.10	.09	.11*	-.04	-.09
19 Work hours 20	58.97	6.62	.29**	.24**	.06	.17**	.13*	.07	.09	.10	-.02	-.08	-.11*
20 Job strain 20	5.19	1.30	.28**	.29**	-.14*	.29**	.14*	.13*	-.17**	.08	.04	-.15*	-.30**
21 Job satisfaction 20	3.87	1.04	.26**	-.25**	-.17**	-.23**	-.10	.10	-.15*	.09	.09	.20**	.28**
22 Job performance 20	5.01	1.41	.21**	.15*	.19**	.17**	.10	.12*	.14*	.04	.11*	-.14*	-.21**

Variable	12	13	14	15	16	17	18	19	20	21	22
12 Conscientiousness	.80										
13 Job demands 19	-.30**	.73									
14 Work hours 19	.31**	.41**	NA								
15 Job strain 19	-.20**	.34**	.37**	.73							
16 Job satisfaction 19	.13*	.31**	.27**	-.42**	.71						

Variable	12	13	14	15	16	17	18	19	20	21	22
17 Job performance 19	.30**	.26**	.24**	-.15*	.23**	NA					
18 Job demands 20	.36**	.26**	.30**	.30**	.14*	.17**	.74				
19 Work hours 20	.30**	.12*	.16**	.20**	.20**	.18**	.55**				
20 Job strain 20	.40**	.17**	.10	.32**	.16**	.18**	.34**	.25**	.72		
21 Job satisfaction 20	-.42**	-.13*	-.04	-.14*	.25**	-.15*	-.29**	-.26**	-.46**	.75	
22 Job performance 20	.40**	.08	.14*	.07	.12*	.24**	.30**	.22**	.28**	-.34**	NA

Notes. $N = 474$ (279 men). * $p < .05$; ** $p < .01$. Diagonals present Cronbach's alpha. The suffix 19 shows pre-COVID results and 20 shows during-COVID results. Gender, race, supervisor change, and promotion are binary variables coded as 0 for women, 0 for non-white, 0 for no supervisor change from 2019 to 2020, and 0 for no promotion from 2019 to 2020, respectively. Organizational position is coded based on employee grade in the organization that ranges from 12 to 60. Work hours are number of hours per week.

Table 2*Situational Strength Comparison*

Variable	Pre-COVID (2019)		During-COVID (2020)		ΔM	<i>t</i> -value	<i>p</i> -value
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Overall situational strength	4.99	1.81	4.37	1.77	-.62	-5.33	< .01
Clarity	5.13	1.84	4.19	1.62	-.94	-8.35	< .01
Consistency	4.65	1.99	4.55	1.81	-.10	-.81	> .05
Constraints	5.38	1.55	4.19	1.65	-1.19	-11.44	< .01
Consequences	4.81	1.73	4.56	1.95	-.25	-2.08	< .05

Notes. *N* = 474 in each time period. ¹ Statistics presented: mean and standard deviation. ² *t*-values obtained via dependent *t*-test for paired samples.

Table 3*Generalized Estimating Equations on Pooled Data*

Variable	Job demands	Job strain	Job satisfaction	Job performance
<i>Marginal-R²</i>	.25	.22	.20	.14
Job demands		.25** (.02)	-.27** (.03)	.29** (.04)
Consc	.26** (.02)	.17** (.03)	-.21* (.08)	.16** (.03)
Sitn str	-.31** (.03)	-.31 (.24)	.21 (.18)	-.14 (.11)
Time	.21 (.15)	.22 (.16)	-.24 (.17)	-.08 (.07)
Consc X Sitn str	-.36** (.06)	-.24 (.18)	.19** (.03)	.10 (.08)
Consc X Time	.26 (.19)	.25** (.02)	-.25** (.04)	.13 (.10)
Sitn str X Time	.19 (.16)	.14 (.12)	-.17 (.13)	-.14 (.12)
Consc X Sitn str X Time	-.29** (.03)	-.16 (.13)	.14 (.12)	.11 (.10)

Notes. $N = 474$ in each time period. * $p < .05$; ** $p < .01$. With the exception of R^2 , table entries are unstandardized coefficients with standard errors in parentheses. Consc: Conscientiousness. Sitn str: situational strength. Time is coded as 0 for pre-COVID and 1 for during-COVID.

Table 4*2019 Regressions (Pre-COVID)*

Variable	Job demands	Job strain	Job satisfaction	Job performance
R^2	.14	.08	.08	.10
Job demands		.19** (.02)	-.18** (.04)	.16** (.03)
Consc	-.14 (.10)	-.10* (.02)	.15** (.04)	.28** (.03)
Sitn str	-.46** (.08)	-.22** (.03)	.17** (.04)	.17 (.14)
Consc X Sitn str	-.30** (.05)	-.15 (.13)	.15 (.13)	.14 (.12)

Notes. $N = 474$. * $p < .05$; ** $p < .01$. With the exception of R^2 , table entries are unstandardized coefficients with standard errors in parentheses. Gender is coded as 0 for women and 1 for men. Organizational position is coded based on employee grade within the organization that ranges from 12 to 60. Consc: conscientiousness. Sitn str: situational strength.

Table 5*2020 Regressions (During-COVID)*

Variable	Job demands	Job strain	Job satisfaction	Job performance
R^2	.18	.17	.15	.12
Job demands		.40** (.07)	-.37** (.04)	.25** (.03)
Consc	.46** (.06)	.35** (.06)	-.39** (.04)	.31** (.04)
Sitn str	-.53** (.11)	-.33** (.04)	.31 (.22)	-.28** (.04)
Consc X Sitn str	-.44** (.05)	-.44 (.26)	.35 (.25)	.16 (.13)

Notes. $N = 474$. * $p < .05$; ** $p < .01$. With the exception of R^2 , table entries are unstandardized coefficients with standard errors in parentheses. Gender is coded as 0 for women and 1 for men. Consc: conscientiousness. Sitn str: situational strength.

Table 6*Indirect, Direct and Total Effects of Conscientiousness: Pre- and During-COVID*

Effects	Pre-COVID				During-COVID			
	Low situational strength		High situational strength		Low situational strength		High situational strength	
	<i>B</i>	95% <i>CI</i>	<i>B</i>	95% <i>CI</i>	<i>B</i>	95% <i>CI</i>	<i>B</i>	95% <i>CI</i>
<i>Job strain</i>								
Indirect	.08	[.04, .12]	-.13	[-.18, -.08]	.50	[.37, .55]	-.13	[-.17, -.07]
Direct	-.10	[-.16, -.09]	-.10	[-.15, -.08]	.35	[.27, .43]	.35	[.30, .40]
Total	-.02	[-.11, .02]	-.23	[-.33, -.16]	.85	[.65, .98]	.22	[.13, .33]
<i>Job satisfaction</i>								
Indirect	-.07	[-.11, -.04]	.12	[.09, .15]	-.46	[-.50, -.40]	.12	[.08, .15]
Direct	.15	[.13, .20]	.15	[.12, .19]	-.39	[-.42, -.35]	-.39	[-.43, -.32]
Total	.08	[.02, .16]	.27	[.20, .34]	-.85	[-.92, -.76]	-.27	[-.35, -.18]
<i>Job performance</i>								
Indirect	.06	[.02, .10]	-.11	[-.08, -.15]	.31	[.25, .35]	-.08	[-.13, -.06]
Direct	.28	[.20, .31]	.28	[.23, .35]	.31	[.27, .35]	.31	[.23, .36]
Total	.34	[.22, .41]	.17	[.15, .20]	.62	[.52, .70]	.23	[.10, .30]

Notes. 95% confidence intervals estimated using 5,000 bootstrap samples with replacement. Indirect effects: Conscientiousness →

Job demands → Outcome. Direct effects: Conscientiousness → Outcome.

Figures

Figure 1

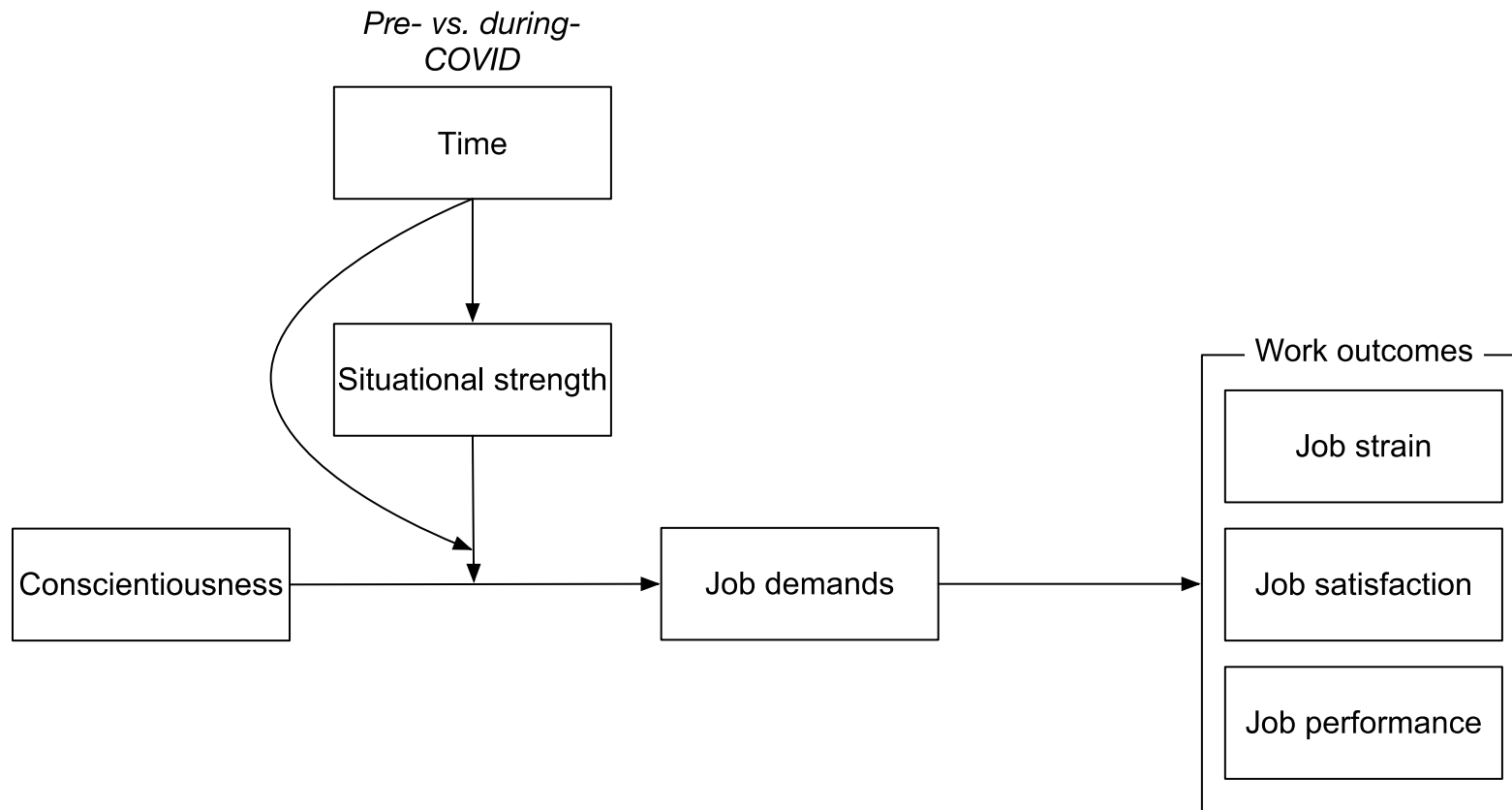
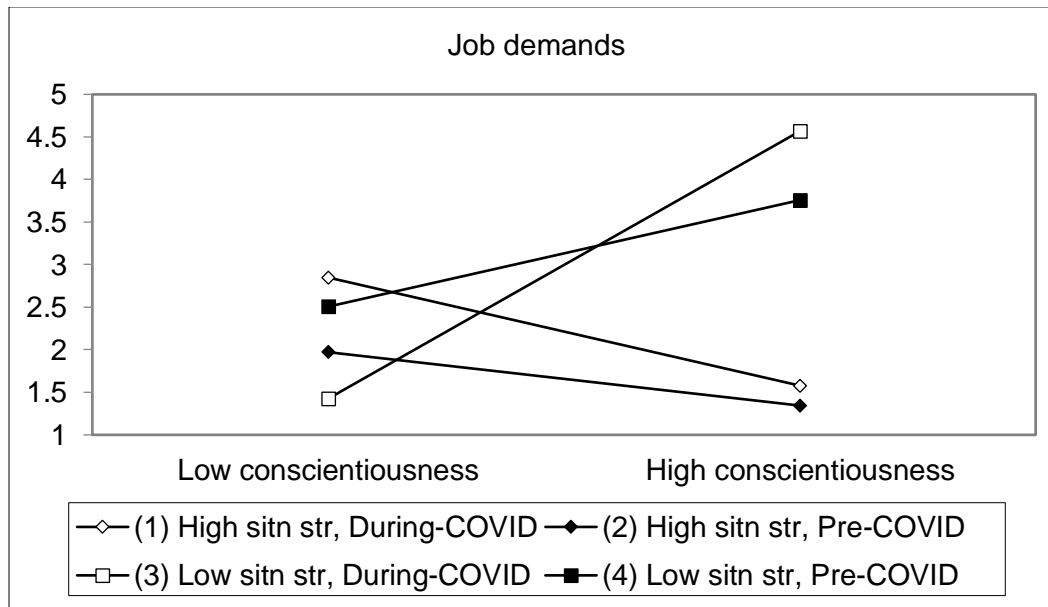
Research Model

Figure 2

Three-Way Interaction Plot Among Conscientiousness, Situational Strength, and Time (Pre- Vs. During-COVID)



Note: Sitrn str: situational strength.

Appendix 1

Scales

All items measured using a 7-point Likert scale ranging from 1: strongly disagree to 7: strongly agree, unless indicated otherwise.

Situational strength (Meyer et al., 2014)

Clarity (7 items)

1. On this job, specific information about work-related responsibilities is provided.
2. On this job, easy-to-understand information is provided about work requirements.
3. On this job, straightforward information is provided about what an employee needs to do to succeed.
4. On this job, an employee is told exactly what to expect.
5. On this job, precise information is provided about how to properly do one's job.
6. On this job, specific information is provided about which tasks to complete.
7. On this job, an employee is told exactly what is expected from him/her.

Consistency (7 items)

1. On this job, different sources of work information are always consistent with each other.
2. On this job, responsibilities are compatible with each other.
3. On this job, all requirements are highly compatible with each other.
4. On this job, procedures remain completely consistent over time.
5. On this job, supervisor instructions match the organization's official policies.
6. On this job, informal guidance typically matches official policies.
7. On this job, information is generally the same, no matter who provides it.

Constraints (7 items)

1. On this job, an employee is prevented from making his/her own decisions.
2. On this job, constraints prevent an employee from doing things in his/her own way.
3. On this job, an employee is prevented from choosing how to do things.
4. On this job, an employee's freedom to make decisions is limited by other people.
5. On this job, outside forces limit an employee's freedom to make decisions.
6. On this job, procedures prevent an employee from working in his/ her own way.
7. On this job, other people limit what an employee can do.

Consequences (7 items)

1. On this job, an employee's decisions have extremely important consequences for other people.
2. On this job, very serious consequences occur when an employee makes an error.
3. On this job, important outcomes are influenced by an employee's actions.
4. On this job, other people are put at risk when an employee performs poorly.
5. On this job, mistakes are more harmful than they are for almost all other jobs.
6. On this job, tasks are more important than those in almost all other jobs.
7. On this job, there are consequences if an employee deviates from what is expected.

Conscientiousness (John & Srivastava, 1999) (6 items)

I see myself as someone ...

1. Does a thorough job.

2. Who is a reliable worker.
3. Perseveres until the task is finished.
4. Does things efficiently.
5. Makes plans and follows through with them.
6. Is easily distracted. (reverse coded)

Job demands (Caplan et al., 1975) (5 items)

Think about your job and the tasks you do at work, and answer the following questions:

1. My job requires me to work very fast.
2. My job requires me to work very hard.
3. I am not asked to do an excessive amount of work.
4. I have enough time to get the job done.
5. I am free from conflicting demands that others make.

Work hours

Obtained from employee weekly work and leave filing, which is reviewed and approved by the supervisor. These are required by organizational policy.

Job strain (Maslach et al., 1996); 1: never; 7: every day (9 items)

1. I feel emotionally drained from my work.
2. I feel used up at the end of the workday.
3. I feel fatigued when I get up in the morning and have to face another day on the job.
4. Working with people all day is really a strain for me.
5. I feel burned out from my work.
6. I feel frustrated by my job.
7. I feel I am working too hard on my job.
8. Working with people directly puts too much stress on me.
9. I feel like at the end of the rope.

Job satisfaction (Hackman & Oldham, 1976) (3 items)

1. Generally speaking, I am very satisfied with this job.
2. I am generally satisfied with the kind of work I do in this job.
3. Most people on this job are very satisfied with the job.

Job performance (1: poor; 7: excellent) (Welbourne et al., 1998) (4 items)

Supervisors rated the employee's performance on the scale for quantity of output, quality of output, and accuracy of work; franchisee satisfaction on a 7-point scale was averaged and also included as a 4th item.

Appendix 2

Appendix 2 – Table 1

Generalized Estimating Equations on Pooled Data

Variable	Work hours	Job strain	Job satisfaction	Job performance
<i>Marginal-R²</i>	.28	.19	.18	.11
Work hours		.19** (.03)	-.19** (.03)	.23** (.03)
Consc	.17** (.05)	.16** (.02)	-.19** (.02)	.20** (.05)
Sitn str	-.25** (.03)	-.28 (.22)	.20 (.18)	-.10 (.09)
Time	.19** (.02)	.20 (.17)	-.22 (.16)	-.13 (.09)
Consc X Sitn str	-.24** (.03)	-.21* (.08)	.17** (.03)	.14* (.05)
Consc X Time	.29** (.07)	.23** (.03)	-.25** (.04)	.13* (.02)
Sitn str X Time	.33 (.23)	.16* (.05)	-.19 (.15)	-.14 (.10)
Consc X Sitn str X Time	-.39** (.02)	-.19 (.12)	.18 (.13)	.14 (.11)

Notes. $N = 474$ in each time period. * $p < .05$; ** $p < .01$. With the exception of R^2 , table entries are unstandardized coefficients with standard errors in parentheses. Consc: Conscientiousness. Sitn str: Situation strength. The pattern of results shown above was unaltered even with the addition of gender, age, organizational position, organizational tenure, supervisor change (from 2019 to 2020), and promotion (from 2019 to 2020) as control variables in all the above model tests.

Appendix 2 – Table 2*2019 Regressions (pre-COVID)*

Variable	Work hours	Job strain	Job satisfaction	Job performance
R^2	.10	.08	.12	.11
Work hours		.21** (.04)	-.26** (.04)	.20** (.04)
Consc	.24 (.16)	-.17** (.04)	.21** (.03)	.20** (.02)
Sitn str	-.28** (.05)	-.20* (.07)	.18** (.04)	.19* (.06)
Consc X Sitn str	-.30** (.04)	-.14 (.13)	.16 (.12)	.17 (.13)

Notes. $N = 474$. * $p < .05$; ** $p < .01$. With the exception of R^2 , table entries are unstandardized coefficients with standard errors in parentheses. Consc: conscientiousness. Sitn str: situational strength. The pattern of results shown above was unaltered even with the addition of gender, age, organizational position, organizational tenure, supervisor change (from 2019 to 2020), and promotion (from 2019 to 2020) as control variables in all the above model tests.

Appendix 2 – Table 3*2020 Regressions (during-COVID)*

Variable	Work hours	Job strain	Job satisfaction	Job performance
R^2	.21	.15	.11	.10
Work hours		.31** (.05)	-.22** (.06)	.22** (.04)
Consc	.63** (.08)	.34** (.04)	-.34** (.05)	.23** (.05)
Sitn str	-.33** (.07)	-.28** (.04)	.30* (.09)	-.30** (.05)
Consc X Sitn str	-.50** (.06)	-.40 (.28)	.38 (.25)	.17 (.16)

Notes. $N = 474$. * $p < .05$; ** $p < .01$. With the exception of R^2 , table entries are unstandardized coefficients with standard errors in parentheses. Consc: conscientiousness. Sitn str: situational strength. The pattern of results shown above was unaltered even with the addition of gender, age, organizational position, organizational tenure, supervisor change (from 2019 to 2020), and promotion (from 2019 to 2020) as control variables in all the above model tests.

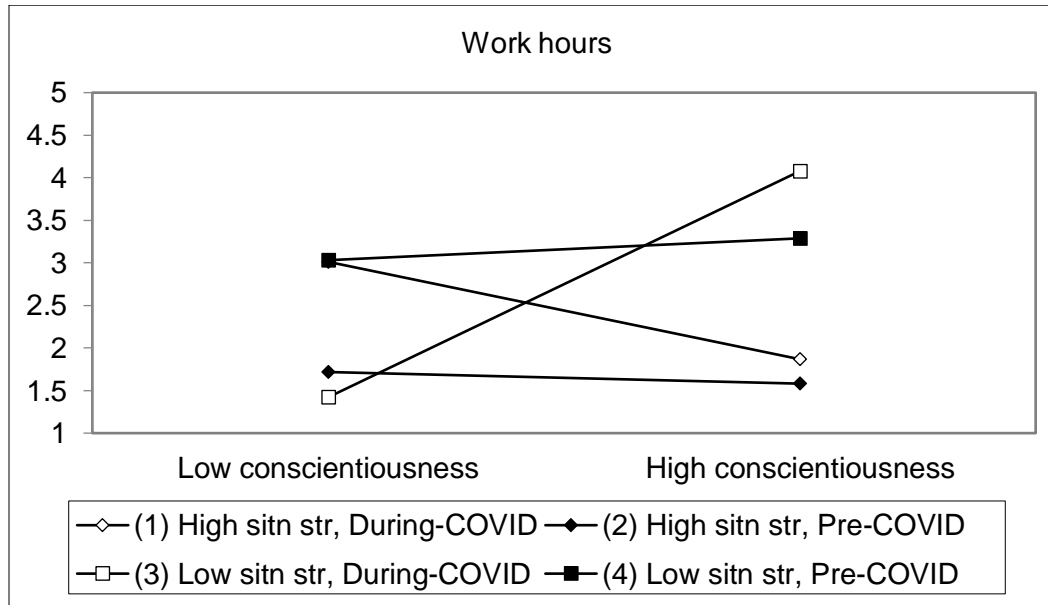
Appendix 2 – Table 4*Indirect, Direct and Total Effects of Conscientiousness: Pre- and During-COVID*

Effects	Pre-COVID				During-COVID			
	Low situational strength		High situational strength		Low situational strength		High situational strength	
	<i>B</i>	<i>95% CI</i>	<i>B</i>	<i>95% CI</i>	<i>B</i>	<i>95% CI</i>	<i>B</i>	<i>95% CI</i>
<i>Job strain</i>								
Indirect	.08	[.05, .11]	-.14	[-.20, -.08]	.38	[.30, .46]	-.10	[-.14, -.07]
Direct	-.17	[-.23, -.13]	-.17	[-.23, -.14]	.34	[.29, .41]	.34	[.30, .41]
Total	-.15	[-.18, -.02]	-.31	[-.43, -.22]	.72	[.59, .87]	.24	[.16, .34]
<i>Job satisfaction</i>								
Indirect	-.10	[-.15, -.05]	.18	[.15, .23]	-.27	[-.35, -.24]	.07	[.04, .13]
Direct	.21	[.18, .25]	.21	[.18, .25]	-.34	[-.39, -.30]	-.34	[-.40, -.29]
Total	.11	[.03, .19]	.39	[.33, .48]	-.61	[-.73, -.53]	-.27	[-.37, -.16]
<i>Job performance</i>								
Indirect	.08	[.03, .14]	-.14	[-.16, -.10]	.27	[.20, .34]	-.07	[-.10, -.04]
Direct	.20	[.15, .24]	.20	[.18, .25]	.23	[.18, .30]	.23	[.20, .28]
Total	.28	[.19, .38]	.06	[.02, .15]	.50	[.39, .64]	.16	[.11, .20]

Notes. 95% confidence intervals estimated using 5,000 bootstrap samples with replacement. Indirect effects: Conscientiousness → Work hours → Outcome. Direct effects: Conscientiousness → Outcome.

Appendix 2 – Figure 1

Three-Way Interaction Plot Among Conscientiousness, Situational Strength, and Time (Pre- Vs. During-COVID)



Note: Sitn str: situational strength.