

# Relationships and resilience at work and at home: Impact of relational coordination on clinician work–life balance and well-being in times of crisis

Hebatallah Naim Ali • Jody Hoffer Gittel • Sien Deng • Cheryl D. Stults • Meghan Martinez • Suzanne Pertsch • Lauren Weger • Ellis C. Dillon

**Background:** The COVID-19 pandemic has been an unusually comprehensive crisis that has taken a toll on people in their roles both at work and at home, giving rise to a new normal.

**Purpose:** Relational coordination theory shows how communicating and relating for the purpose of task integration drives positive outcomes for workers, their clients, and their employers. The ecological theory of work–family spillover shows how relational dynamics from work spillover into family life, and vice versa. We build upon these two theories to understand how relationships at work impact work–life balance and worker well-being, especially in times of crisis.

**Methodology:** This study was based on surveys of clinicians affiliated with a large California health system during the COVID-19 pandemic. Mediation and multilevel logistic regression models were used to assess how relational coordination among colleagues impacts well-being (job satisfaction and lack of burnout) through its effects on work–life balance (schedule control and personal time).

**Results:** A 1-point increase in relational coordination tripled clinician odds of having schedule control ( $OR = 3.33, p < .001$ ) and nearly doubled the odds of having adequate personal time ( $OR = 1.83, p < .001$ ). A 1-point increase in relational coordination nearly quadrupled odds of being satisfied with their job ( $OR = 3.92, p < .001$ ) and decreased odds of burnout by 64% ( $OR = 0.36, p < .001$ ). The impact of relational coordination on worker well-being was mediated by greater schedule control and personal time.

**Conclusion:** Relational coordination among colleagues impacts worker well-being by enabling greater control over one's schedule and more personal time, thus creating a positive spillover from work to home in times of crisis.

**Practice Implications:** In times of crisis, leaders should prioritize relational coordination among colleagues in order to support their resilience both at work and at home.

**Key words:** Burnout, clinicians, COVID-19, job satisfaction, relational coordination, resilience, work-life balance

Worker well-being is a challenge for organizations, especially in times of crisis (Dillon et al., 2022; Nembhard et al., 2020). The COVID-19 pandemic has taken a toll on workers in their roles as colleagues, family members, and community members. The pandemic has been

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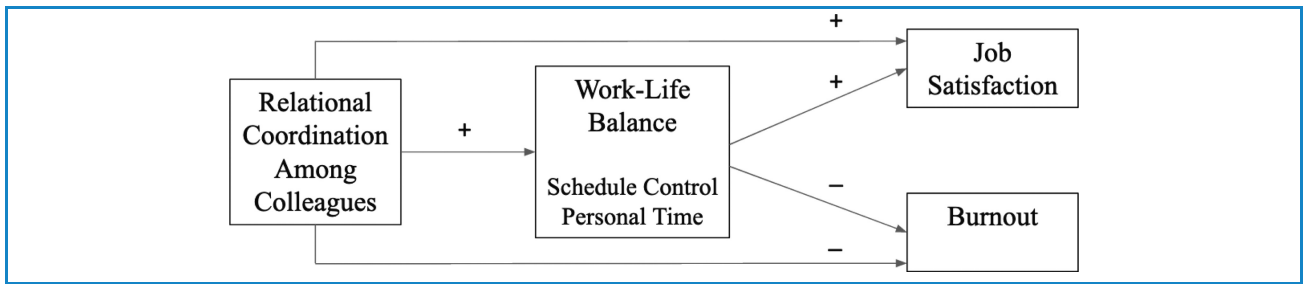
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an unusually comprehensive crisis, spurring people to reconsider their commitments and giving rise to the “Great Resignation” (Hsu, 2021). Workers are leaving the workforce in large numbers, increasing pressure on employers to rethink the employee value proposition. The challenge of burnout among clinicians was well documented before the pandemic (Rabatin et al., 2016; Shanafelt et al., 2015), and the pandemic has further contributed to this challenge (Dillon et al., 2022). But what are the solutions to this challenge? In this article, we explore how relationships at work significantly impact worker well-being through their effect on work–life balance, using data collected during the COVID-19 pandemic from clinicians across eight medical groups (MGs) in a large California health system.

## Theory

High-quality relationships are expected to be beneficial for people in both their personal lives and their work lives. They promote physical and psychological well-being (Ryff & Singer, 2001), thus further boosting relationship quality (Heaphy & Dutton, 2008). They also bring caring and compassion into the workplace, thus driving worker and customer well-being and other critical performance outcomes (Dutton & Heaphy, 2003).



**Figure 1.** Model to be tested.

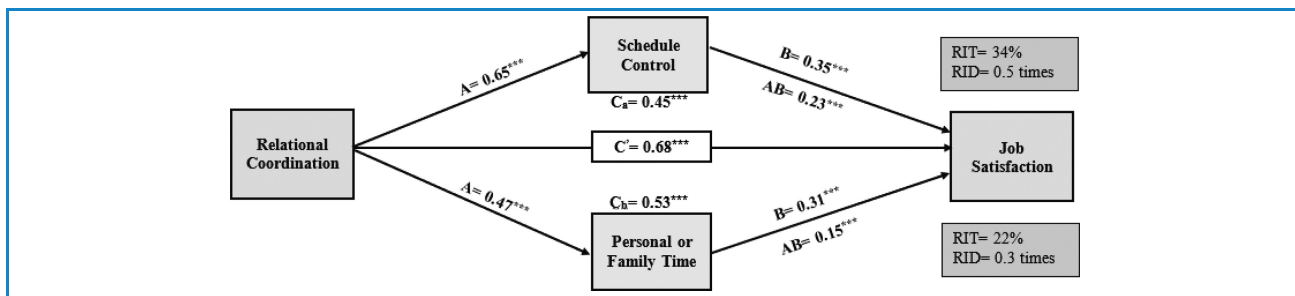
Relational coordination theory shows how high-quality relationships among colleagues enable workers to better manage their interdependencies, thus creating better outcomes for themselves and other stakeholders. For a systematic review, see Bolton et al. (2021). Relational coordination enables workers to increase the quality of care (Cramm & Nieboer, 2012; Gittell et al., 2000; Gittell, Weinberg, Pfefferle, & Bishop, 2008; Havens

et al. 2010; McDermott et al., 2019; Romanow et al., 2018) and the efficiency of care (Gittell et al., 2000; Gittell, Weinberg, Bennett, & Miller, 2008; Lundstrom et al., 2014) while engaging in learning and innovation (Noël et al., 2013). Relational coordination also supports worker well-being because high-quality relationships are intrinsically satisfying and because high-quality relationships enable workers to more easily

**TABLE 1: How constructs were measured for this study**

Constructs	Measures	Response anchors	Sources	Validation status
Timely communication	Do people on your team communicate with you in a timely way about the work you do together?	1 = <i>never</i> to 5 = <i>always</i>	Gittell, Weinberg, Pfefferle, & Bishop (2008)	Validated as part of the shortened RC index
Problem-solving communication	When there is a problem in the work you do together, do people on your team blame others or work with you to solve the problem?	1 = <i>always blame</i> to 5 = <i>always solve</i>	Gittell, Weinberg, Pfefferle, & Bishop (2008)	Validated as part of the shortened RC index
Shared goals	Do the people on your team share your goals for the work you do together?	1 = <i>not at all</i> to 5 = <i>completely</i>	Gittell, Weinberg, Pfefferle, & Bishop (2008)	Validated as part of the shortened RC index
Shared knowledge	How much do the people on your team know about your role in the work you do together?	1 = <i>nothing</i> to 5 = <i>everything</i>	Gittell, Weinberg, Pfefferle, & Bishop (2008)	Validated as part of the shortened RC index
Mutual respect	Do people on your team respect your role in the work you do together?	1 = <i>not at all</i> to 5 = <i>completely</i>	Gittell, Weinberg, Pfefferle, & Bishop (2008)	Validated as part of the shortened RC index
RC index	An equally weighted index of the previous five measures	1–5	Gittell, Weinberg, Pfefferle, & Bishop (2008)	Validated as part of the shortened RC index
Schedule control	I have control over my work schedule.	1 = <i>strongly disagree</i> to 5 = <i>strongly agree</i>	Tai-Seale et al. (2019)	Not previously validated as a stand-alone measure
Personal time	My work schedule leaves me with enough time for my personal/family life.	1 = <i>strongly disagree</i> to 5 = <i>strongly agree</i>	Linzer et al. (2020)	Not previously validated as a stand-alone measure
Job satisfaction	Overall, I am satisfied with my current job.	1 = <i>strongly disagree</i> to 5 = <i>strongly agree</i>	Linzer et al. (2020)	Not previously validated as a stand-alone measure
Burnout	Overall, based on your definition of burnout, how would you rate your level of burnout?	1 = <i>I have no symptoms of burnout</i> to 5 = <i>completely burned out</i>	Dolan et al. (2015)	Validated as a stand-alone measure

Note. RC index = relational coordination index.



**Figure 2.** Impact of relational coordination on job satisfaction mediated through schedule control and personal time. Relational coordination as the independent variable, job satisfaction as the dependent variable, and schedule control and personal time as mediators. *A* = direct effect of the independent variable on the mediating variable; *B* = direct effect of the mediating variable on the dependent variable;  $C_{a,b}$  = direct effect of the independent variable on the dependent variable after controlling for the effect of the mediator; *C'* = total effect of the independent variable on the dependent variable without adding the mediator to the model; *AB* = indirect effect (the difference between the total and direct effect) of the independent variable on the dependent variable; *RIT* = ratio of indirect effect *AB* to total effect *C'*; *RID* = ratio of indirect effect *AB* to direct effect *C*. \**p* < .05, \*\**p* < .01, \*\*\**p* < .001.

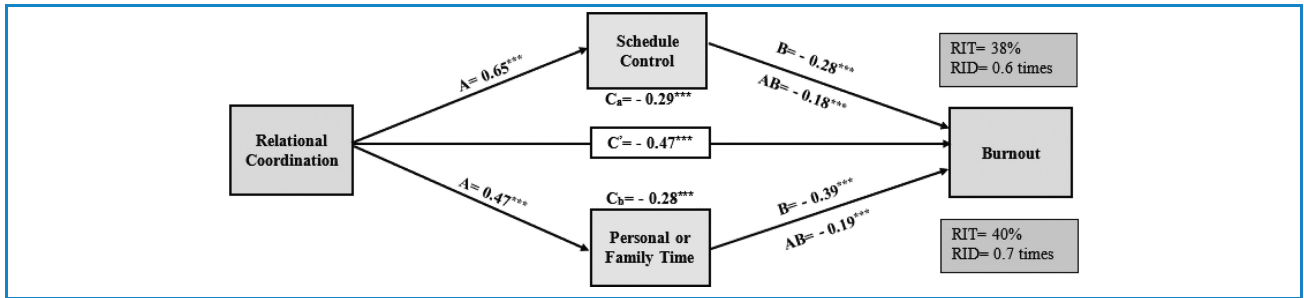
**TABLE 2: Participant characteristics and variables of interest across eight medical groups**

	MG1 (n = 141)	MG2 (n = 833)	MG3 (n = 171)	MG4 (n = 148)	MG5 (n = 433)
Female <sup>a</sup>	57 (42.5%)	491 (64.2%)	105 (65.6%)	41 (27.9%)	231 (59.8%)
Age groups <sup>a</sup>					
<35 years	13 (9.6%)	99 (11.9%)	24 (14.1%)	0 (0.0%)	36 (8.4%)
35–44 years	34 (25.0%)	242 (29.2%)	61 (35.9%)	33 (23.1%)	139 (32.3%)
45–54 years	27 (19.9%)	291 (35.1%)	48 (28.2%)	32 (22.4%)	127 (29.5%)
55–64 years	35 (25.7%)	150 (18.1%)	21 (12.4%)	46 (32.2%)	97 (22.5%)
≥65 years	27 (19.9%)	48 (5.8%)	16 (9.4%)	32 (22.4%)	32 (7.4%)
Race <sup>a</sup>					
White	58 (54.2%)	327 (54%)	62 (48.1%)	65 (55.1%)	204 (63.0%)
Asian	42 (39.3%)	247 (40.8%)	49 (38.0%)	41 (34.8%)	75 (23.2%)
Other	7 (6.5%)	32 (5.3%)	18 (14.0%)	12 (10.2%)	45 (13.9%)
Part-time (yes) <sup>a</sup>	16 (11.4%)	221 (26.5%)	18 (10.5%)	-	100 (23.1%)
Role					
APC	21 (14.9%)	59 (7.1%)	28 (16.4%)	0 (0%)	91 (21%)
Physician	120 (84.1%)	774 (92.9%)	143 (93.6%)	148 (100%)	342 (78.9%)
Relational coordination <sup>b</sup>	3.90 [0.76]	4.04 [0.62]	3.96 [0.58]	4.09 [0.62]	4.00 [0.62]
Work–life balance					
Schedule control (yes) <sup>a</sup>	96 (68.6%)	636 (76.6%)	135 (79.9%)	126 (86.9%)	338 (78.2%)
Personal time (yes) <sup>a</sup>	83 (59.3%)	479 (57.7%)	118 (69%)	109 (74.7%)	302 (70.1%)
Worker well-being					
Job satisfaction (yes) <sup>a</sup>	104 (74.3%)	644 (77.7%)	131 (77.1%)	137 (92.6%)	345 (79.9%)
Burnout (yes) <sup>a</sup>	44 (32.4%)	342 (41.7%)	54 (31.8%)	12 (8.5%)	156 (36.2%)

Note. MG = medical group; APC = advanced practice clinician.

<sup>a</sup>Nominal variables summarized with *n* (%) and tested using chi-square.

<sup>b</sup>Continuous relational coordination index summarized using mean [*SD*], with analysis of variance used to determine the significance of statistical difference.



**Figure 3.** Impact of relational coordination on burnout mediated through schedule control and personal time. Relational coordination as the independent variable, burnout as the dependent variable, and schedule control and personal time as mediators. *A* = direct effect of the independent variable on the mediating variable; *B* = direct effect of the mediating variable on the dependent variable; *C<sub>a,b</sub>* = direct effect of the independent variable on the dependent variable after controlling for the effect of the mediator; *C* = total effect of the independent variable on the dependent variable without adding the mediator to the model; *AB* = indirect effect (the difference between the total and direct effect) of the independent variable on the dependent variable; *RIT* = ratio of indirect effect *AB* to total effect *C*; *RID* = ratio of indirect effect *AB* to direct effect *C*. \**p* < .05, \*\**p* < .01, \*\*\**p* < .001.

MG6 (n = 84)	MG7 (n = 50)	MG8 (n = 84)	Total (n = 1,944)	<i>p</i>
42 (56%)	19 (40.4%)	41 (53.9%)	1,027 (57.4%)	<.001
9 (10.7%)	5 (10.0%)	7 (8.5%)	193 (10.0%)	<.001
20 (23.8%)	5 (10.0%)	26 (31.7%)	560 (29.1%)	
20 (23.8%)	13 (26.0%)	29 (35.4%)	587 (30.5%)	
24 (28.6%)	17 (34.0%)	11 (13.4%)	401 (20.8%)	
11 (13.1%)	10 (20.0%)	9 (11.0%)	185 (9.6%)	
54 (80.6%)	26 (66.7%)	40 (61.5%)	836 (57.5%)	<.001
8 (11.9%)	10 (25.6%)	22 (33.9%)	494 (34.0%)	
5 (7.5%)	3 (7.7%)	3 (4.6%)	125 (8.6%)	
18 (22.8%)	11 (22%)	4 (5.6%)	388 (21.8%)	<.001
19 (22.6%)	22 (44%)	9 (10.7%)	249 (12.8%)	<.001
65 (77.4%)	28 (56%)	75 (89.3%)	1,695 (87.2%)	
3.87 [0.69]	3.89 [0.62]	4.02 [0.56]	4.00 [0.63]	<.01
60 (71.4%)	44 (88%)	60 (71.4%)	1,495 (77.3%)	<.01
38 (45.2%)	38 (76%)	49 (58.3%)	1,216 (62.8%)	<.001
63 (75%)	40 (80%)	64 (77.1%)	1,528 (78.9%)	<.01
39 (46.4%)	18 (36%)	30 (36.6%)	695 (36.3%)	<.001

complete their work (Falatah & Conway, 2019; Gittell, Weinberg, Pfefferle, & Bishop, 2008; Havens et al., 2018; House et al., 2021). We therefore hypothesize that:

H1: Relational coordination among colleagues predicts greater job satisfaction and lower burnout.

Given the fluidity between work and family, we can go further. The ecological theory of work–family spillover shows how relationships at work spillover into family life, and vice versa (Grzywacz & Marks, 2000). Work–family spillover theory explores the conditions under which spillover effects are positive and the conditions under which they are negative. Positive spillovers occur through skills, positive mood, a sense of accomplishment, support, and control over one’s work (Rothbard, 2001), whereas negative spillovers occur primarily through role stress, work pressure, strain, and the lack of time (Greenhaus & Beutell, 1985). Supervisory support is a source of positive work–family spillover due to supervisors’ ability to support schedule flexibility (Grzywacz & Marks, 2000). However, the impact of relationships among colleagues on work–family spillover is not well understood. Based on relational coordination theory, we propose that relational coordination among colleagues enables workers to support one another in accomplishing their work more effectively (Gittell, Weinberg, Pfefferle, & Bishop, 2008), thus creating positive work–family spillovers in the form of greater schedule control and greater personal time.

H2: Relational coordination among colleagues predicts greater schedule control and greater personal time.

H3: Relational coordination among colleagues predicts greater job satisfaction and lower burnout, mediated through its impact on schedule control and personal time.

How does this matter in times of crisis? Relational coordination and high-quality relationships, in general, are expected to improve resilience in times of crisis for two reasons: They provide the social support that enables workers to cope more effectively with stress, and they provide the information-processing capacity that enables workers to solve the challenges that are presented by crises (Gittell, 2008; Nembhard et al., 2020; Sutcliffe & Vogus, 2003). Work–family spillover theory suggests yet another way that relational coordination among colleagues improves resilience—by providing greater scheduling flexibility and personal time to enable workers to meet their obligations at home during times of crisis, thus protecting them against burnout.

H4: Relational coordination among colleagues predicts lower levels of burnout during times of crisis.

For the full model to be tested, please see Figure 1.

## Methods

Sutter Health is a large integrated health care system providing care for 3 million patients in rural and urban counties in Northern California. The network includes 23 hospitals and nine affiliated MGs providing ambulatory care. After the COVID-19 pandemic, stay-at-home orders were introduced in March 2020; two surveys were distributed electronically to clinicians in summer 2020 and fall 2020. These surveys focused on the experience of clinicians—physicians, physician assistants, and nurse practitioners. Based on previous research at Sutter Health showing organizational factors to be critical for improving clinician well-being and patient satisfaction, relational coordination was included in the fall survey (Chung et al., 2020; Dillon et al., 2020; Tai-Seale et al., 2019). These

**TABLE 3: Correlations between relational coordination, work–life balance, and worker well-being variables**

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3
1. Relational coordination	1,884	4.00	0.63	1.00	—	—
2. Timely communication	1,882	4.04	0.73	.80***	1.00	—
3. Problem-solving communication	1,864	4.00	0.77	.83***	.57***	1.00
4. Shared goals	1,847	3.98	0.75	.87***	.61***	.67***
5. Shared knowledge	1,853	3.92	0.70	.82***	.55***	.55***
6. Mutual respect	1,861	4.09	0.77	.89***	.62***	.66***
7. Personal time	1,936	3.56	1.11	.27***	.20***	.21***
8. Schedule control	1,934	3.90	0.97	.42***	.34***	.31***
9. Job satisfaction	1,936	3.94	0.93	.45***	.34***	.34***
10. Burnout	1,915	2.36	0.91	-.32***	.23***	.25***

\**p* < .05.  
 \*\**p* < .01.  
 \*\*\**p* < .001.

surveys were a part of a quality improvement initiative approved by the Sutter Health Institutional Review Board.

### Study Outcomes and Measures

This article presents the analysis of the fall 2020 survey while using the summer 2020 data as a reference point to track changes in burnout levels among participants who answered both surveys. The independent variable for this study was relational coordination, defined as a mutually reinforcing process of communicating and relating for the purpose of task integration (Gittell, 2002). Using a short-form Relational Coordination Survey with five of the original seven items, as validated in previous studies (e.g., Gittell, Weinberg, Pfefferle, & Bishop, 2008), we measured relational coordination from the perspective of clinicians, asking them to rate their experience of relational coordination (a) with other clinicians, (b) with other clinical staff (nurses and medical assistants), and (c) with their clinic managers. They were asked to rate the extent to which each of these roles communicated with them in a timely way; focused on problem-solving rather than blaming; and supported by shared goals, shared knowledge, and mutual respect. Each dimension is rated on a 5-point scale. See Table 1 for these questions. The dimensions were then combined into an equally weighted total index for each participant (Cronbach's  $\alpha = .90$ ) as described by Gittell and Ali (2021).

Outcomes of interest included work–life balance and well-being at work. Work–life balance was measured using two validated measures: schedule control (Tai-Seale et al., 2019) and personal time (Linzer et al., 2000). Well-being at work was measured using two validated measures: job satisfaction (Linzer et al., 2020) and burnout (Dolan et al., 2015). Each of these outcomes was measured using a single-item

5-point Likert scale question. Although there has been a trend toward the use of multi-item job satisfaction scales, a study of the efficacy of single-item measures of job satisfaction shows a strong correlation between single-item measures of overall job satisfaction and scales measuring overall job satisfaction (Wanous et al., 1997). See Table 1 for these questions.

Although the mediation models used continuous outcomes scores, in the multilevel logistic models, we converted outcomes from their original 5-point scales to dichotomous variables to better communicate our findings. For the variables schedule control, personal time, and job satisfaction, “no” included participants’ answers of “neither disagree nor agree,” “disagree,” or “strongly disagree,” whereas “yes” included answers of “agree” or “strongly agree.” As for burnout, “no” included participants’ answers of “I have no symptoms of burnout” or “occasionally, I am under stress but don’t feel burned out,” whereas “yes” included answers “I have one or more symptoms of burnout,” “I have persistent burnout,” and “I am completely burned out.”

### Statistical Analyses

We conducted four levels of analysis. First, we conducted a bivariate analysis to test the correlation between participants’ sociodemographic characteristics and relational coordination with their colleagues, their work–life balance, and their well-being at work, across the participating MGs. Second, we ran logistic regression models to test whether relational coordination affects work–life balance, job satisfaction, and burnout. Third, we run four separate mediation models using structural equation modeling to test the following:

Model 1: Whether relational coordination predicts greater job satisfaction by increasing control over one’s work schedule as a mediator (see Figure 2).

4	5	6	7	8	9	10
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
1.00	—	—	—	—	—	—
.64***	1.00	—	—	—	—	—
.73***	.74***	1.00	—	—	—	—
.23***	.24***	.26***	1.00	—	—	—
.36***	.35***	.41***	.49	1.00	—	—
.43***	.37***	.45***	.47***	.49***	1.00	—
.29***	.27***	.30***	.53***	-.38***	.59***	1.00

Model 2: Whether relational coordination predicts greater job satisfaction by increasing one's personal time as a mediator (see Figure 2).

Model 3: Whether relational coordination predicts lower burnout by increasing control over one's work schedule as a mediator (see Figure 3).

Model 4: Whether relational coordination predicts lower burnout by increasing personal time as a mediator (see Figure 3).

Fourth, we compared burnout levels for clinicians who answered both the summer and fall 2020 surveys and created a new index that captured changes in burnout from summer to fall 2020. Change in burnout included four categories: (a) *consistently had burnout* (reporting burnout in both summer and fall 2020), (b) *developed burnout* (reporting no burnout in summer 2020 then reporting burnout in fall 2020), (c) *reduced burnout* (reporting burnout in summer 2020 but no burnout in fall 2020), and (d) *continued to have no burnout* (reported no burnout in either summer or fall 2020). We used analysis of variance (ANOVA) to test for differences in relational coordination scores between the four groups to determine whether those experiencing higher relational coordination were more protected from increased burnout as the crisis continued, suggesting greater resilience.

Finally, we ran multilevel logistic regression models to identify whether relational coordination impacted the odds of clinicians experiencing greater work–life balance and greater well-being while controlling for other covariates and unobserved variation between MGs.

## Results

### Descriptive and Bivariate Statistics

Out of 4,462 clinicians invited, 1,944 (44%) responded to the fall 2020 survey and were included in the analysis. Respondents included 1,027 (57.4%) women, 193 (10%) <35-year-olds, 560 (29.1%) 35- to 44-year-olds, 587 (30.5%) 45- to 54-year-olds, 401 (20.8%) 55- to 64-year-olds, 185 (9.6%) 65+-year-olds, 1,695 (87.2%) physicians, and 249 (12.8%) nonphysicians, mostly nurse practitioners and physician assistants. Across the MGs, there were statistically significant differences in participants' sociodemographic characteristics. In both MG1 and MG4, most respondents were male (57.5% and 72.1%, respectively), whereas MG2 had a significantly higher percentage of females (64.2%). On the other hand, significantly more participants from MG1, MG4, and MG7 reported being in the age group 65 years or older (19.9%, 22.4%, and 20%, respectively) relative to the other MGs. Please see Table 2 for a summary of participants' sociodemographic characteristics in each of the eight MGs.

A majority of respondents reported control over their work schedule and having adequate personal time (77% and 63%, respectively). Almost 80% of respondents reported being satisfied with their job, whereas 36% reported experiencing burnout symptoms. Overall, respondents across the MGs reported relatively strong coordination ties with others, with an average relational coordination score of 4.00 ( $SD = 0.63$ ) out of 5.00. Please see Table 3. They reported timely and problem-solving communication of 4.04 ( $SD = 0.73$ ) and 4.00 ( $SD = 0.77$ ), respectively. The strongest reported dimension of relational coordination

was mutual respect, with an average score of 4.09 ( $SD = 0.77$ ), whereas the weakest was shared knowledge, with an average score of 3.92 ( $SD = 0.70$ ).

On the whole, we can say that the clinicians in this study experienced relatively strong relational coordination with their colleagues. However, there was significant variation across MGs ( $p < .01$ ).

### Mediation Models

We sought to understand the causal pathway through which relational coordination among colleagues affected clinician outcomes. We hypothesized that relational coordination experienced by clinicians significantly improves their ability to have control over their work schedule and adequate personal time, which in turn would boost their job satisfaction and decrease their burnout (Table 4).

**Job satisfaction.** Results indicate that the impact of relational coordination on job satisfaction is partially mediated by work–life balance (schedule control and personal time). As shown in Figure 2, the total effect of relational coordination on job satisfaction is highly significant, with a regression coefficient of 0.68 ( $C' = 0.68, p < .001$ ). The first model tests schedule control, where the regression coefficient of relational coordination, also called the *direct effect*, decreases to 0.45 but remains highly significant ( $C_a = 0.45, p < .001$ ). The ratio of the indirect to total effect for the Mediation Model 1 is 0.23/0.68 ( $\approx 0.34$ ), meaning that about 34% of the effect of relational coordination on job satisfaction is mediated through the ability to control one's work schedule. The second model tests personal time as the mediator, where the regression coefficient of relational coordination decreases to 0.53 and again remains highly significant ( $C_b = 0.53, p < .001$ ). The ratio of the indirect to total effect for Mediation Model 2 is 0.15/0.68 ( $\approx 0.22$ ), meaning that about 22% of the effect of relational coordination on job satisfaction is mediated by having adequate personal time. On the other hand, their indirect effect—the decrease in the regression coefficients attributed to the mediator effect—was 0.23 ( $p < .001$ ) for schedule control and 0.15 ( $p < .001$ ) for personal time. Together, these results fulfill Baron and Kenny's (1986) criteria for partial mediation for the effects of relational coordination on job satisfaction for both mediators (Zhao et al., 2010).

**Burnout.** Similarly, results indicate that the impact of relational coordination among colleagues on burnout is partially mediated by work–life balance (schedule control and personal time). As shown in Figure 3, the ratio of indirect to total effect for schedule control was 0.38, meaning that about 38% of the effect of relational coordination on burnout is mediated by having control over one's schedule. The ratio of indirect to total effect for personal time was 0.40, meaning that about 40% of the effect of relational coordination on burnout is mediated by having adequate personal time.

### Multilevel Analysis

To control for the unobserved heterogeneity between the MGs, we opted to run a multilevel logit model (i.e., with

**TABLE 4: Mediated regression analysis to assess the relational coordination impact on job satisfaction and burnout through work–life balance**

		Model 1 <i>n</i> = 1,868	Model 2 <i>n</i> = 1,872	Model 3 <i>n</i> = 1,873	Model 4 <i>n</i> = 1,876
Independent variable (X)		Relational coordination			
Dependent variable (Y)		Job satisfaction		Burnout	
Mediator variable (M)		Schedule control	Personal time	Schedule control	Personal time
Step 1 Predictor: X Outcome: Y	<i>R</i> <sup>2</sup>	.21	.21	.10	.10
	β coefficient [C']	0.68***	0.68***	−0.47***	−0.47***
	<i>F</i> test	484.6***	484.6***	215***	215***
Step 2 Predictor: X Outcome: M	<i>R</i> <sup>2</sup>	.17	.07	.17	.07
	β coefficient [A]	0.65***	0.47***	0.65***	0.47***
	<i>F</i> test	389.9***	146.8***	389.9***	146.8***
Step 3 Predictor: X, M Outcome: Y	<i>R</i> <sup>2</sup>	.32	.33	.17	.31
	β <sub>1</sub> coefficient [C]	0.45***	0.53***	−0.29***	−0.28***
	β <sub>2</sub> coefficient [B]	0.35***	0.31***	−0.28***	−0.39***
	<i>F</i> test	430.3***	462.4***	196.3***	424.9***
Indirect effect [AB]		0.23***	0.15***	−0.18***	−0.19***
Ratio of indirect effect to total effect [RIT]		0.34 (34%)	0.22 (22%)	0.38 (38%)	0.40 (40%)
Ratio of indirect effect to direct effect [RID]		0.51 (0.5 times)	0.28 (0.3 times)	0.62 (0.6 times)	0.67 (0.7 times)
Mediation type <sup>a</sup>		Partial	Partial	Partial	Partial
<p><i>Note.</i> A = direct effect of the independent variable on the mediating variable; B = direct effect of the mediating variable on the dependent variable; C = direct effect of the independent variable on the dependent variable after controlling for the effect of the mediator; C' = total effect of the independent variable on the dependent variable without adding the mediator to the model; AB = indirect effect (the difference between the total and direct effect) of the independent variable on the dependent variable; RIT = ratio of indirect effect AB to total effect C; RID = ratio of indirect effect AB to direct effect C.</p> <p><sup>a</sup>Zhao et al.'s (2010) approach to testing mediation type using bootstrapping with Monte Carlo replications set at 500.</p> <p>*<i>p</i> &lt; .05.  **<i>p</i> &lt; .01.  ***<i>p</i> &lt; .001.</p>					

MGs as the second-level random effect) to investigate the determinants of clinicians' work–life balance and well-being. Controlling for sociodemographics, a 1-point increase in relational coordination tripled clinician odds of having schedule control (*OR* = 3.33, *p* < .001) and nearly doubled their odds of having adequate personal time (*OR* = 1.83, *p* < .001). Clinicians who self-identify as Asians were more likely to report having adequate personal time (*OR* = 1.48, *p* < .01), whereas clinicians of other races were 54% less likely to have control over their work schedule compared with White clinicians (*OR* = 0.46, *p* < .001; Table 5).

Controlling for sociodemographics, a 1-point increase in relational coordination nearly quadrupled the odds of clinicians being satisfied with their job (*OR* = 3.92, *p* < .001) and decreased their odds of burnout by 64% (*OR* = 0.36, *p* < .001). Female clinicians were 33% less likely to report be-

ing satisfied with their job (*OR* = 0.67, *p* < .05) and twice as likely to experience burnout (*OR* = 1.95, *p* < .001) relative to their male counterparts. Clinicians who self-identified as Asians had double the odds of being satisfied with their job (*OR* = 2.03, *p* < .001) and were 36% less likely to experience burnout (*OR* = 0.64, *p* < .01) compared to White clinicians. Please see Table 6.

### Relational Coordination and Resilience to Burnout

Relational coordination scores from the fall 2020 survey were related to the change in burnout reported by participants who answered both the summer 2020 and fall 2020 surveys (*n* = 615). The average relational coordination index (RC index) for participants who reported burnout only in the fall survey (*increased burnout*) was 3.71 (*n* = 68, *SD* = 0.56),



**TABLE 5: Multilevel logit models showing the odds ratio of relational coordination on work–life balance**

Effect	Schedule control (n = 1,306) <sup>a</sup>					Personal time (n = 1,308) <sup>b</sup>				
	OR	SE	95% CI		p	OR	SE	95% CI		p
			LL	UL				LL	UL	
Fixed effects										
Intercept	0.03	0.02	0.01	0.09	<.001	0.24	0.11	0.10	0.61	.003
RC <sup>c</sup>	3.33	0.42	2.59	4.27	<.001	1.78	0.18	1.46	2.17	<.001
Age groups										
<35 years	Reference					Reference				
35–44 years	1.21	0.32	0.73	2.02	.467	0.76	0.17	0.49	1.18	.219
45–54 years	1.39	0.37	0.83	2.33	.206	0.60	0.13	0.39	0.92	.020
55–64 years	1.06	0.30	0.61	1.84	.845	0.62	0.15	0.39	1.00	.048
≥65 years	0.91	0.30	0.48	1.73	.768	0.82	0.23	0.47	1.43	.482
Gender (female)	1.03	0.17	0.74	1.43	.859	0.76	0.10	0.59	0.99	.044
Race										
White	Reference					Reference				
Asian	1.28	0.23	0.90	1.81	.170	1.45	0.20	1.10	1.90	.008
Other/mixed	0.46	0.11	0.28	0.74	.001	0.92	0.20	0.60	1.41	.708
Role (APC) <sup>d</sup>	0.70	0.16	0.45	1.10	.120	1.47	0.28	1.02	2.12	.040
Part-time	1.21	0.24	0.82	1.77	.338	1.36	0.21	1.00	1.85	.047
Random effects										
Medical group <sup>e</sup>	0.03	0.04	0.00	0.58	—	0.40	0.16	0.19	0.86	—
Wald $\chi^2$	102.1				<.001	56.29				<.001

Note. OR = odds ratio; SE = standard error; CI = confidence interval; LL = lower limit; UL = upper limit; RC = relational coordination index; APC = advanced practice clinician.  
<sup>a</sup>The model ran on seven medical groups as medical group (N.4) was omitted to lack of APCs answering the survey.  
<sup>b</sup>The model ran on seven medical groups as medical group (N.4) was omitted to lack of APCs answering the survey.  
<sup>c</sup>The unstandardized odds ratio for a 1-point increase in the relational coordination index.  
<sup>d</sup>With physician as the reference group.  
<sup>e</sup>The constant baseline odds, conditional on zero random effects.

whereas the average RC index for participants who reported burnout both in the fall and summer surveys (*consistently burned out*) was 3.69 (n = 140, SD = 0.65). On the other hand, the average RC index for participants who reported burnout in the summer survey but not the fall survey (*reduced burnout*) was 3.95 (n = 48, SD = 0.54), whereas the average RC index for participants who reported no burnout in both the fall and summer surveys (*consistently had no burnout*) was 4.14 (n = 359, SD = 0.58). A one-way ANOVA test showed a statistically significant difference between the average RC indices of the four groups (F = 24.87, p < .001). For participants who *consistently had no burnout*, the average RC index was significantly higher than that of participants who were *consistently burned out* or had *increased burnout*, as seen

by a post hoc *Bonferroni* correction with a p value near zero (p < .001).

## Discussion

Results from this study suggest that relational coordination predicts greater job satisfaction and lower burnout (H1) and that it also predicts greater schedule control and personal time (H2). Results further suggest that relational coordination among colleagues predicts satisfaction and lower burnout, *mediated through* its impact on schedule control and personal time (H3). Finally, findings from our longitudinal data suggest that relational coordination among colleagues predicts lower levels of burnout during times of crisis (H4). Taken together these findings support our theorizing that relational coordination creates a positive

**TABLE 6: Multilevel logit models showing the odds ratio of relational coordination on worker well-being**

Effect	Job satisfaction (n = 1307) <sup>a</sup>					Burnout (n = 1310) <sup>b</sup>				
	OR	SE	95% CI		p	OR	SE	95% CI		p
			LL	UL				LL	UL	
Fixed effects										
Intercept	0.02	0.01	0.01	0.07	<.001	26.58	13.42	9.88	71.48	<.001
RC <sup>c</sup>	3.92	0.54	2.99	5.14	<.001	0.36	0.04	0.29	0.45	<.001
Age groups										
<35 years										
35–44 years	1.33	0.39	0.74	2.38	.338	1.31	0.29	0.85	2.02	.214
45–54 years	1.38	0.41	0.77	2.46	.273	0.95	0.21	0.61	1.46	.810
55–64 years	0.86	0.26	0.47	1.57	.616	1.04	0.25	0.65	1.67	.870
≥65 years	0.95	0.34	0.47	1.93	.885	0.51	0.16	0.28	0.94	.030
Gender (female)	0.67	0.12	0.47	0.95	.026	1.95	0.27	1.48	2.57	<.001
Race										
White										
Asian	2.03	0.40	1.39	2.98	<.001	0.64	0.09	0.49	0.85	.002
Other/mixed	1.42	0.45	0.76	2.64	.267	0.72	0.17	0.45	1.15	.172
Role (APC) <sup>d</sup>	1.84	0.49	1.10	3.10	.021	0.50	0.10	0.33	0.75	.001
Part-time	0.88	0.17	0.60	1.29	.499	0.86	0.14	0.63	1.18	.352
Random effects estimate										
Medical group (variance constant) <sup>e</sup>	6.00 <sup>-33</sup>	2.04 <sup>-17</sup>			—	0.04 <sup>-1</sup>	0.02	4.61 <sup>-7</sup>	36.12	—
Wald $\chi^2$	119.4				<.001	121.02				<.001

Note. OR = odds ratio; SE = standard error; CI = confidence interval; LL = lower limit; UL = upper limit; RC = relational coordination index; APC = advanced practice clinician.  
<sup>a</sup>The model ran on seven medical groups as medical group (N.4) was omitted to lack of APCs answering the survey.  
<sup>b</sup>The model ran on seven medical groups as medical group (N.4) was omitted to lack of APCs answering the survey.  
<sup>c</sup>The unstandardized odds ratio for a 1-point increase in the relational coordination index.  
<sup>d</sup>With physician as the reference group.  
<sup>e</sup>The constant baseline odds, conditional on zero random effects.

spillover effect from work to home, thus creating greater resilience during times of crisis.

Although worker well-being deserves attention on ethical grounds, our findings suggest that there is also a solid utilitarian argument for it. These findings suggest a need for health care employers to reevaluate the value proposition they are offering to clinicians and to focus on relational coordination and work–life balance as essential drivers of well-being, especially given the growth in workers who are juggling caregiving responsibilities while health systems increase their focus on efficiency (Alobaid et al., 2020; Johnson, 2018).

One limitation of the study is that we lacked pre-pandemic baseline data because both surveys were conducted during the pandemic (early and midcrisis). Moreover, questions on rela-

tional coordination, work–life balance, and job satisfaction were asked in the fall survey but not in the summer survey, limiting our ability to track their changes over time as we were able to do for burnout. Finally, only clinicians were surveyed. Our results, therefore, do not capture coordination from the perspective of other clinical staff and clinic managers. Follow-up surveys should include other key roles to better understand their experiences and to inform intervention design.

### Practice Implications

Leaders should prioritize high-quality relationships for themselves and their teams, both at work and at home. Although interventions such as mindfulness training have shown some success (Goldhagen et al., 2015) and while social support can

help people cope with crises, coping by itself is not sustainable if it does not address root causes (Dillon et al., 2020). Increasing individual resilience is not sufficient to solve the growing problem of stress and burnout. A recent study including 17 interviews with physician and health system leaders found that although personal practices like sleep were believed to influence burnout, organizational factors like staffing, workload, and electronic health record tasks were more significant contributors. One interviewee shared: “It does not matter how resilient or positive you are; the work environment, especially in primary care, will eventually be a problem” (Dillon et al., 2020).

Frontline leaders can implement schedule flexibility by being aware of the differential needs of individual employees and by personalizing their support. Middle managers can communicate a shared goal and then allow teams to solve the problem at the local level based on their unique characteristics and needs. Leaders at all levels can implement structures to support relational coordination among colleagues, such as selecting and training for teamwork, shared accountability and shared rewards for outcomes, shared protocols, shared information systems, proactive conflict resolution, and boundary spanner roles to coordinate “on the fly” regardless of which individuals are working on a given day (Bolton et al., 2021).

## Conclusions

Taken together, our findings suggest that relational coordination among colleagues impacts worker well-being by creating a positive spillover from work to home. These findings contribute new insights to relational coordination theory and to the ecological theory of work–family spillovers. These findings also contribute valuable insights for leaders regarding the importance of supporting high-quality relationships at work and at home. By building relational coordination among colleagues while honoring obligations outside work, organizations can benefit from the relational competencies that workers bring from work to their homes and communities and back to their work, thus fostering a virtuous cycle of high-quality relationships at work and at home (Fletcher, 1998; Gittell, 2003).

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