

COVID-19 job loss and re-employment among partnered parents: Gender and educational variations

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Abstract

Objective: This study examines the re-employment prospects and short-term career consequences for mothers and fathers who lost their jobs during the COVID-19 pandemic.

Background: The pandemic recession has been dubbed a “shecession,” but few studies have explored whether mothers paid a higher or lower price upon labor market re-entry than fathers.

Method: This study draws on March 2020–December 2022 Current Population Survey data and focuses on partnered parents with children under age 13 in the household. Exploiting four-month panels, we use multi-level discrete-time event history models to predict re-employment and linear regression models to predict job-level wage upon re-employment, while controlling for a wide array of factors.

Results: Partnered fathers were more likely than partnered mothers to find re-employment during the pandemic. The gender gap in re-employment was concentrated only among parents without a bachelor’s degree and persisted when all controls were held constant. Moreover, upon re-employment, fathers had higher job-level wages than mothers, which was consistent across educational levels. Even with the same job-level wage before labor market exit, mothers were penalized on re-entry relative to fathers and this penalty was rooted in gendered job segregation.

Conclusion: This study extends previous research by analyzing re-employment and a critical material outcome for parents (i.e., job-level wage upon re-employment) during the entire pandemic, including the “new normal” (late 2022). The results reveal the intersectional inequalities in family and work: Compared to fathers, mothers,

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particularly less-educated mothers, paid a higher price for their time out of work during the pandemic.

KEYWORDS

families and work, gender, income or wages, labor force participation, labor market, parenting and parenthood

BACKGROUND

The pandemic recession has been dubbed a “shecession” (Alon et al., 2022). Women lost 2 million more jobs than men in April 2020 alone due in part to women’s over-representation in jobs most affected by COVID-19 closures (U.S. Bureau of Labor Statistics, 2020). In addition, because of increased child-care demands associated with school and daycare closures, mothers faced elevated employment challenges and were more likely than fathers to quit their jobs to meet escalated child-care responsibilities (Collins et al., 2021; Petts et al., 2021). This pandemic “shecession” stirred broad concern and led Vice President Kamala Harris (2021) to state that: “The exodus of women from the workforce is a national emergency.” Even in non-recessionary periods, job loss and employment interruptions have negative effects on subsequent employment and earnings (for review, see Brand, 2015). Given that families and workplaces are gendered institutions, job search behaviors and career penalties associated with job losses differ markedly between mothers and fathers (Cha, 2014; Damaske, 2021; Fuller & Qian, 2022; Rao, 2020). Almost no research, however, exists on whether mothers paid a higher or lower price upon re-entry than fathers for their time out of work during the pandemic.

This study examines the short-term career consequences of losing a job during COVID-19 among partnered parents with children under age 13 in the household. We focus on partnered parents because we are interested in the gendered work-family dynamics that may constrain women’s labor market experiences and outcomes. We analyze gender and educational variations in the re-employment likelihood of parents and their job-level wage upon re-employment. Following previous research (e.g., Dwyer, 2013; England et al., 1996; Yavorsky et al., 2016), we use “job” to refer to a person’s unique occupation-industry combination and “job-level wage” to refer to the average wage of that occupational-industry combination. We draw on longitudinal household panels from monthly, nationally representative Current Population Surveys (CPS) covering a period spanning nearly 3 years: March 2020 to December 2022. The CPS has several unique advantages. The household panel design allows us to link data on both members of a couple across time to assess partnered parents’ re-employment prospects and career outcomes while controlling for one’s own and partner’s characteristics (Qian & Hu, 2021). In addition, CPS data are available to the public in a timely manner, enabling us to provide the most up-to-date insight into the pandemic impacts. The large sample size is also advantageous because it permits an intersectional analysis of gender and education among partnered parents.

Our study is informed by the literature highlighting that families, workplaces, and labor markets are gendered institutions (Acker, 1990; Martin, 2004; Risman, 2004). Pervasive gender norms tie breadwinning to fatherhood and caregiving to motherhood (Gerson, 2010; Heilman & Okimoto, 2008; Killewald, 2016). These norms are embedded in and structure individual beliefs, family processes, workplace policies and practices, labor markets, and public policies (Acker, 1990; Collins, 2019; Ruppner, 2020), which intersect to shape women’s and men’s experiences with employment, unemployment, and re-employment. A vast body of work since long before the pandemic shows that men reap advantages in the workplace, while women, and mothers in particular, pay penalties (for reviews, see Gough & Noonan, 2013; Heilman & Caleo, 2018). Compared to fathers, mothers have less bargaining power in marriage (e.g., Killewald, 2011), conduct more unpaid emotional, cognitive, and domestic labor

(Daminger, 2019; Yavorsky et al., 2015) and less paid work (Weeden et al., 2016), are viewed as less competent workers (Heilman & Okimoto, 2008), suffer from employment discrimination (Cheung et al., 2022), and are segregated into lower-paying jobs throughout their life course (Jacobs, 1989; Levanon et al., 2009). In addition, relative to fathers, mothers were disadvantaged in re-employment *before* the onset of the pandemic (Cha, 2014; Damaske, 2021; Rao, 2020). Indeed, pre-pandemic research has found that mothers are more likely than fathers to opt out of work to take care of children (Stone, 2007), and parents with caregiving-related employment elapses are penalized more than those with unemployment spells by employers in hiring (Weisshaar, 2018).

The COVID-19 pandemic deepened many of the existing gender inequalities, as well as class inequalities (for review, see Yavorsky et al., 2021). Low-income retail, service-sector, and health-care jobs were hit hard by the recession, and care demands likely disproportionately affected lower-educated women's employment because of a lack of resources to outsource child care and access to flexible, telecommutable jobs (Kantamneni, 2020; Lyttelton et al., 2022). Persistent care challenges may have spurred low-educated women to be less likely to pursue re-employment after job loss, with non-employment providing time to care for their children and meet "good mothering" expectations (Damaske, 2021). Notably, both high- and low-educated women likely experienced re-employment wage penalties, compared to men, because women commonly experience wage-related disadvantages, such as discrimination and occupational segregation, *across* the occupational hierarchy (Cheung et al., 2022; Ishizuka, 2021; Levanon et al., 2009; Yavorsky, 2019). Taken together, we expect that gendered workplace, labor market, and family processes shape women's and men's re-employment experiences and outcomes.

Building on this literature, our study makes three contributions. First, we extend previous research by analyzing re-employment during the entire pandemic, including late 2022, or the "new normal." Most pandemic-related research has focused on gender differences in employment during the immediate onset of COVID-19 (e.g., Collins et al., 2021; Dias et al., 2020; Landivar et al., 2020; Montenovo et al., 2022; Petts et al., 2021; Villarreal & Yu, 2022). Studies that focused on the immediate aftermath of COVID-19 (spring 2020 through fall 2020), though important, do not capture the people who re-entered the labor market in the second or third year of the pandemic. Analysis that covers a fuller period of the pandemic is critical given that labor market conditions and couple-level employment decisions may vary across the pandemic. Moreover, given the disproportionate care responsibilities that fell on women's shoulders after the onset of the pandemic (Remery et al., 2022; Yavorsky et al., 2021), examining later years of the pandemic is necessary to capture wage consequences associated with re-entry that might not immediately materialize.

Second, we examine a critical material outcome for parents—the average wage of a person's job upon re-employment. To date, most studies have focused on the pandemic and gender differences in employment rather than wages. No nationally representative, panel data currently exist that allow for studying re-employment and individual-level wages during the pandemic. We use the CPS and job-level wages to understand gender and class variations in access to better or worse jobs upon re-employment, since the wages people secure at re-employment can have lifetime economic consequences, as previous research shows (Brand, 2015; Bravo & Herce, 2022). More broadly, gender wage gaps upon re-entry have implications for the course of the gender revolution in post-pandemic times.

Third, we investigate variation by education, a key social class stratifier during COVID-19 (Montenovo et al., 2022; Yavorsky et al., 2021), to better understand gender differences in re-employment among partnered parents. We expand on Goldin (2022) who found that lower-educated women had lower labor force participation even in 2021 by extending analysis into the end of 2022 and revealing how gender gaps in re-employment wages varied, if at all, by class.

Although not our focus, we also run the same re-employment and wage analysis, as described above, for the period immediately preceding the pandemic (March 2017–December 2019) to assess differences, or lack thereof, between the pandemic and pre-pandemic periods. We report those results in our discussion. Taken together, this study advances existing research on family and work inequalities in pre- and early-pandemic times to provide crucial insight into how re-employment processes and outcomes are gendered and classed.

DATA AND METHODS

Data

We use nationally representative CPS data to examine gender and educational variations in the consequences of job loss over nearly 3 years (March 2020–December 2022). We obtain the CPS data through the Integrated Public Use Microdata Series (Flood et al., 2022). The CPS is a monthly survey of over 65,000 households, with a rotating design: household members are surveyed in four consecutive months, left out of the sample for the following 8 months, and then reinterviewed in the following 4 months. Each interview month in the CPS is referred to as a Month in Sample (MIS). Given the panel design of the CPS, each respondent has one or two observation windows; in each window, they are surveyed for at most four consecutive months (our supplementary analysis showed that 97% of respondents were continuously interviewed). As detailed below, we leverage four-month panels in the CPS to address our research questions.

Sample

We focus on parents aged 25–55 who are in a different-gender marital or cohabiting relationship and have at least one child under 13 years old in the household. We refer to this group as parents or parents of young children interchangeably. Our results reported below are robust to models that include a broader age range (18–55). Because the CPS is designed to capture the civilian workforce, we drop less than 1% of respondents in the armed forces. We also follow prior methodological recommendations for linking individuals across months (Madrian & Lefgren, 2000) and drop 1.3% of respondents with invalid follow-up responses.

Using the four-month panels, we construct a person-month file based on respondents' employment histories. Because we are interested in pre-job loss characteristics, respondents need to be employed first, and they enter the risk set if they lost their job in a later MIS after the onset of the pandemic (i.e., March 2020 or later). We operationalize job losses through two pieces of information in the CPS: first, employment status (employed, unemployed, not in the labor force) and second, reasons for (and only pertaining to) not being in the labor force, including (a) unable to work, (b) retired, (c) disabled, (d) ill, (e) in school, (f) taking care of house or family, or (g) something else/other. If employed respondents became unemployed or left the labor force for the reasons (f) and (g) above, we classify them as losing their job. People in our job loss category could have left the labor force or become unemployed due to layoffs, firings, or quits, but the CPS does not provide such information. Respondents exit the risk set at the time of re-employment, and those who did not experience re-employment are right censored.

Our sample covering the period of March 2020–December 2022 includes 9997 person-months from 5528 partnered parents who lost their job during the pandemic. We drop the few respondents whose education changed during their observation windows (25 respondents; 69 person-months). After we drop 644 person-months (6%) with missing data on any variables used in analyses, our sample for examining re-employment prospects consists of 9284 person-

months from 5172 respondents. When analyzing career outcomes upon re-employment, we focus on the 1505 re-employment events from 1486 respondents.

Measurement

Dependent variables

Our first dependent variable is a binary measure of *re-employment* (1 = yes; 0 = otherwise). Our second dependent variable is *job-level wage upon re-employment (logged)*, operationalized as the log of hourly wage for the re-employed respondent's new job (i.e., their three-digit census occupation and industry combination). We use this occupation-industry level wage measure because individuals' wages and earnings are not collected in every MIS but are only surveyed in outgoing rotation groups. Prior research has used the occupation by industry combinations as a proxy for "jobs" (e.g., Dwyer, 2013; England et al., 1996; Yavorsky et al., 2016). Indeed, our respondents are well differentiated by this occupation-industry level measure. For the 1486 re-employed respondents, there are 621 unique occupation-industry combinations upon their re-employment.

To create this measure of job-level wage upon re-employment, we pool CPS outgoing rotation group data from our entire analysis period of March 2020–December 2022. Note that this measure is calculated based on all employed civilian wage and salary workers aged 15 and above, thereby reflecting job quality in terms of wage level in the U.S. labor market (Dwyer, 2013). We first follow the conventional procedure to calculate individuals' wages (Cha & Weeden, 2014; Glauber, 2018). We use workers' hourly wages if they are paid by the hour. If workers are salaried, we calculate their hourly wage from their weekly earnings and weekly work hours. We multiply all CPS-top-coded earnings and wages by a factor of 1.4. We exclude those earning less than \$1 per hour or more than \$100 per hour in 1979 dollars. Using the Consumer Price Index, wages are adjusted for inflation each month to December 2022 dollars. We then calculate the average wage for each occupation-industry combination with at least five occupants and take the natural logarithm of the average wage. Appendix Table 1 shows examples of occupation-industry combinations with low, median, and high average wages.

In addition to job-level wages, we also calculate job-level gender composition, an important control variable that we describe below. For both job-level measures, we use pooled CPS data from March 2020 to December 2022 and only keep occupation-industry combinations with five or more occupants. We also experimented with using the past 5 and 10 years of CPS data to calculate the job-level measures, and our results were robust.

Independent and control variables

Our independent variables are parents' *gender* (1 = father; 0 = mother), *education* (1 = bachelor's degree or above; 0 = otherwise), and *the interaction* between gender and education.

We include a wide array of controls. At the job (i.e., occupation-industry) level, we control for gender composition and prior wage. Derived from pooled CPS data (March 2020–December 2022), *job-level gender composition* is classified as women-dominated if women account for 70% or higher of all workers in the occupation-industry combination, as men-dominated if women account for 30% or lower, and as mixed-gender if women account for 31%–69% (Yavorsky et al., 2016). In our analysis for re-employment, we use the gender composition measure for one's last job; in our analysis for wage upon re-employment, we use gender composition of one's new job. We also control for *job-level wage before job loss (logged)*. This variable is calculated in the same way as the measure of job-level wage upon re-employment, except that it measures the log of average hourly wage for the respondent's *last* job. The last

job's wage is an important indicator of a respondent's labor market position prior to job loss (Dwyer, 2013) and may shape re-employment chances and outcomes.

At the couple level, we control for partnership type, labor supply (employment status and work hours) of the respondent's partner, and the couple's educational pairing. *Partnership type* is classified as either marriage (= 1) or cohabitation (= 0). As one's labor market activities and decisions may be affected by their partner's work demands (Cha, 2010; Rao, 2020), we control for a lagged variable indicating *the labor supply of the respondent's partner* in the previous month (Cha, 2010). The partner's labor supply is coded into five categories: unemployed, not in the labor force, working less than full-time (fewer than 35 h per week), working full-time (35–49 h per week), and overwork (working 50 h or more per week) (Cha & Weeden, 2014). *The couple's educational pairing* reflects the relative human capital and bargaining power between the two partners, which may shape the gendered opportunities and prioritization of employment in a different-gender partnership (Qian & Hu, 2021). Following the convention in the literature (e.g., Qian, 2018; Schwartz & Han, 2014), we categorize education into four levels (less than high school, high school, some college, bachelor's degree or above) for both members of a couple, and then we code educational pairing into three categories: (1) homogamy if both partners have the same educational level, (2) hypergamy if the male partner has a higher level of education, and (3) hypogamy if the female partner has a higher level of education.

At the individual level, we control for respondents' labor market attachment and socio-demographic characteristics. To capture respondents' labor market attachment, we include whether respondents were *working full-time* (35 h or more per week) *before job loss* (1 = yes; 0 = no), whether respondents *left the labor force* (= 1) or became unemployed (= 0) at the time of job loss, and *months elapsed since job loss*. Respondents' socio-demographic characteristics include *age* (continuous), *race* (non-Hispanic White, non-Hispanic Black, Hispanic, and other), and the presence of children under age 5 in the household (1 = yes; 0 = no) given that parents, in particular mothers, of these children shoulder especially heavy child-care responsibilities (Sayer et al., 2004). Last, we control for *survey year* and *month* dummies to account for seasonality. Table 1 presents weighted descriptive statistics by gender for the variables we use.

Analytic strategies

In modeling re-employment, we use discrete-time event history analysis, which is a widely-used method to analyze the risk of an event occurrence when time is discrete (e.g., measured in months in our case) while taking into account right censoring (Singer & Willett, 2003). We apply a logit function to the discrete-time event history models, because re-employment, our dependent variable, is a binary variable. Our data are organized into person-months. Respondents' spells of job loss begin in the month when they lose their job and end with re-employment or censoring. If respondents experience another job loss after re-employment during their observation window, they are treated as re-entering the risk set of re-employment and contribute to a new spell of job loss to the data. Because multiple job losses or re-employment events experienced by the same individual are not independent of each other, we extend discrete-time event history analysis to a multi-level framework (see Teachman, 2011 for detailed methodology). This multi-level approach means that our data are structured in two levels, with person-months (Level 1) nested within persons (Level 2). Our regression models include a random effect at the person level to account for heterogeneity across respondents (Rose & Stavrova, 2019). To analyze the log of hourly wage for a person's job upon re-employment, we use linear regression models, with standard errors adjusted for clustering on person ID. Multi-level models (re-employment events nested within persons) are not needed here because only 19 out of 1486 respondents experienced more than one re-employment event. In both analyses, we estimate four models: (1) baseline model including only the parent's gender and education, (2) baseline model including only the parent's gender, education,

TABLE 1 Descriptive statistics.

	Sample for analyzing re-employment		Sample for analyzing job-level wage upon re-employment	
	Mothers: Mean/%	Fathers: Mean/%	Mothers: Mean/%	Fathers: Mean/%
Re-employment	15.35%	18.00%		
Job-level wage upon re-employment (logged)			3.31 (0.40)	3.30 (0.34)
BA or above	41.02%	25.35%	50.16%	24.00%
Job-level gender composition	Before job loss		Upon re-employment	
Mixed-gender	37.67%	27.88%	36.79%	26.04%
Women-dominated	50.12%	8.05%	54.61%	8.21%
Men-dominated	12.20%	64.07%	8.60%	65.75%
Job-level wage before job loss (logged)	3.25 (0.41)	3.30 (0.33)	3.31 (0.41)	3.29 (0.31)
Marriage	89.14%	82.81%	91.05%	83.21%
Partner's labor supply				
Unemployed	5.42%	6.39%	6.11%	10.25%
Not in the labor force	6.68%	35.91%	7.16%	37.65%
Working less than full-time	4.86%	12.72%	6.62%	10.49%
Working full-time	63.37%	40.31%	64.17%	38.30%
Overwork	19.65%	4.68%	15.94%	3.32%
The couple's educational pairing				
Homogamy	61.70%	56.32%	60.44%	57.32%
Hypergamy	13.27%	14.75%	11.21%	12.26%
Hypogamy	25.02%	28.93%	28.35%	30.42%
Working full-time before job loss	39.42%	59.96%	39.50%	63.99%
Left the labor force	69.63%	39.24%	62.64%	37.37%
Months elapsed since job loss	0.52 (0.68)	0.49 (0.62)	1.15 (0.37)	1.15 (0.34)
Age	36.56 (6.55)	38.74 (6.91)	36.81 (6.28)	38.80 (6.79)
Race				
White	54.13%	40.29%	56.72%	39.16%
Black	8.89%	14.30%	9.27%	13.23%
Hispanic	26.45%	33.52%	24.40%	37.02%
Other	10.52%	11.89%	9.61%	10.59%
Children under 5 in the household	51.14%	49.09%	52.27%	52.10%

Note: Statistics are weighted. Standard deviations are in parentheses. To save space, statistics for survey year and month dummies are omitted from this table.

and interaction between gender and education, (3) Model 1 with all the controls, and (4) Model 2 with all the controls. All analyses are weighted.

RESULTS

Results for re-employment

We use multi-level discrete-time event history models to predict the log-odds of re-employment. To facilitate the interpretation of our results, Figure 1 shows the predicted probability of re-

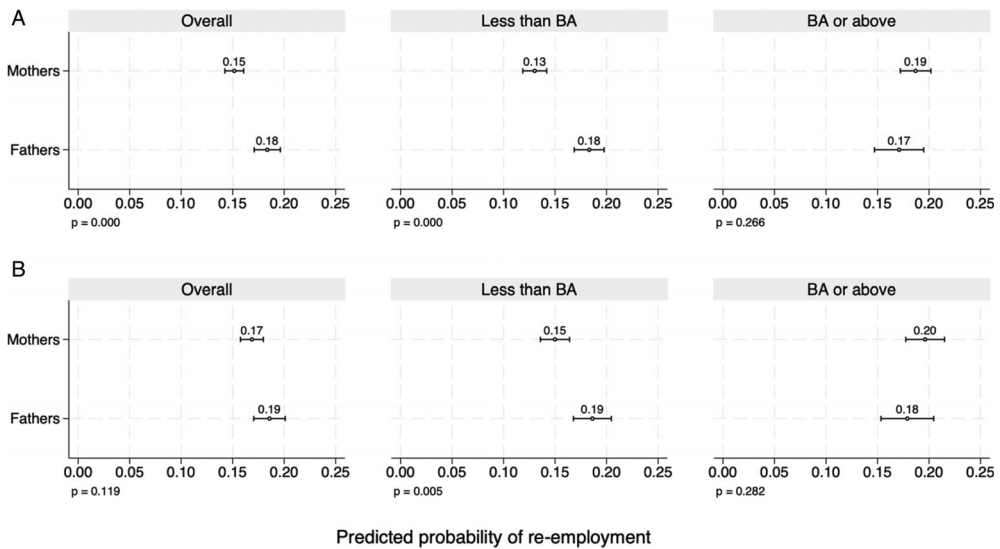


FIGURE 1 The predicted probability of re-employment. Error bars indicate 95% confidence intervals. The significance of the father–mother difference is indicated by the p -value on the bottom left of each subgraph (see Appendix Table 2 for model results and Appendix Table 3 for marginal effects). (A) Baseline models without controls. (B) Full models with all controls.

employment in each month (Singer & Willett, 2003), with 95% confidence intervals denoted (see Appendix Table 2 for model results and Appendix Table 3 for marginal effects). Figure 1A presents results from baseline models without any control variables. Overall, fathers of young children were significantly more likely than mothers of young children to be re-employed (0.18 vs. 0.15; $p < .001$). Disaggregating the pattern by education, however, revealed that mothers' lower re-employment probability compared with fathers was only evident among parents without a bachelor's degree. College-educated fathers and mothers did not differ significantly in their probability of re-employment (0.17 vs. 0.19; $p = .266$). By contrast, the probability of re-employment in each month was five-percentage points higher for less-educated fathers than for less-educated mothers (0.18 vs. 0.13; $p < .001$). This means that among less-educated parents, fathers' re-employment probability was nearly 40% higher than that of mothers.

Figure 1B shows that after we included a host of controls, the overall predicted probability of re-employment was 0.19 for fathers, higher than the corresponding probability (0.17) for mothers, although the two-percentage points gender gap in re-employment was not statistically significant ($p = .119$). Our supplementary analysis showed that parents who had left the labor force (especially to take care of family) were less likely than those who had experienced unemployment to be re-employed. This finding is consistent with prior research, which showed that when looking for re-employment, parents who had temporarily opted out of work to care for family were penalized in hiring more than unemployed parents (Weisshaar, 2018). It may also be the case that individuals (especially mothers) who had left the labor market for family-related reasons continued to face ongoing child care or family responsibilities that prevented a speedy return to employment (Damaske, 2021; Rao, 2020). As mothers were more likely than fathers to leave the labor force (70% vs. 39%; Table 1), mainly for family-related reasons, such gender difference in the type of employment lapse was important in helping explain the overall gender re-employment gap.

Adding controls, however, did not change the difference in gender re-employment gaps between parents with and without a bachelor's degree. Akin to the results from Figure 1A, in

Figure 1B, a significant gender gap in re-employment existed among less-educated parents only. Among parents without a bachelor's degree, the predicted probability of re-employment in each month was .15 for mothers and .19 for fathers, and the four-percentage points gender gap was statistically significant ($p = .005$). By contrast, among parents with a bachelor's degree or above, the predicted probability of re-employment was 0.20 for mothers and 0.18 for fathers, but the father–mother gap in re-employment was not statistically significant ($p = .282$).

In sum, Figure 1 shows that after job loss during the pandemic, fathers of young children had an advantage in finding re-employment over mothers of young children, with this pattern concentrated in parents without a bachelor's degree. The gender re-employment gap among less-educated parents persisted even after we accounted for a wide set of controls.

Results for job-level wage upon re-employment

We use linear regression models to predict the log of job-level wage upon re-employment. The predicted job-level wages (in December 2022 dollars) upon re-employment are presented in Figure 2, with 95% confidence intervals denoted (see Appendix Table 4 for model results). When we did not include any control variables (Figure 2A), the job-level wage upon re-employment was 31.05 for fathers and 28.09 for mothers, with the predicted wage for fathers significantly higher than that for mothers ($p < .001$). In other words, compared to fathers, mothers paid an 11% ($= 31.05/28.09 - 1$) job-level wage penalty upon re-entry, increasing from an 8% ($= 30.45/28.14 - 1$) job-level wage penalty before their job loss (supplementary analysis, not shown). The penalty in job-level wage was a conservative measure of gender wage inequality, as existing research has shown that women tend to work in lower-paying specialties and establishments and earn less than men even when they hold the same job (Fuller, 2018; Pelley & Carnes, 2020; Snyder & Green, 2008). The fathers' wage advantage over mothers upon re-employment was evident among both less- and college-educated parents. Among less-educated parents, the job-level wage was 25.95 for fathers, significantly higher than 23.29 for mothers ($p < .001$). Similarly, among college-educated parents, the job-level wage was 38.75 for fathers, significantly higher than 35.63 for mothers ($p = .020$).

In Figure 2B, we included all the controls, and the father–mother gaps in job-level wage upon re-employment diminished and became nonsignificant. The job-level wage upon re-employment was 29.58 for fathers and 29.09 for mothers, and the father–mother difference was nonsignificant ($p = .462$). When disaggregated by education and with all the controls included, the father–mother gap in job-level wage upon re-employment was not statistically significant among either parents without a bachelor's degree ($p = .839$) or those with at least a bachelor's degree ($p = .154$).

Our additional analysis revealed that job-level gender composition was the variable that explained away the gender gap in job-level wage upon re-employment. In Figure 3, we present the predicted job-level wage upon re-employment, based on the models excluding job-level gender composition and then the full models including all the controls (see Appendix Table 5 for model results). Figure 3A reveals that job-level wage upon re-employment was significantly higher for fathers than mothers (30.33 vs. 28.57; $p = .001$), even when fathers and mothers had previously worked in jobs with similar wages (given that we controlled for their last job's average wage) and they were comparable in other attributes that we controlled for (e.g., couple- and individual-level characteristics and seasonality at re-employment). Fathers' advantage over mothers in job-level wage upon re-entry was statistically significant among both less-educated parents (28.15 vs. 26.74; $p = .013$) and college-educated parents (33.22 vs. 30.82; $p = .021$). After we controlled for job-level gender composition in Figure 3B; however, none of the father–mother gaps in job-level wage upon re-employment were statistically significant (p -values range from .154 to .839).

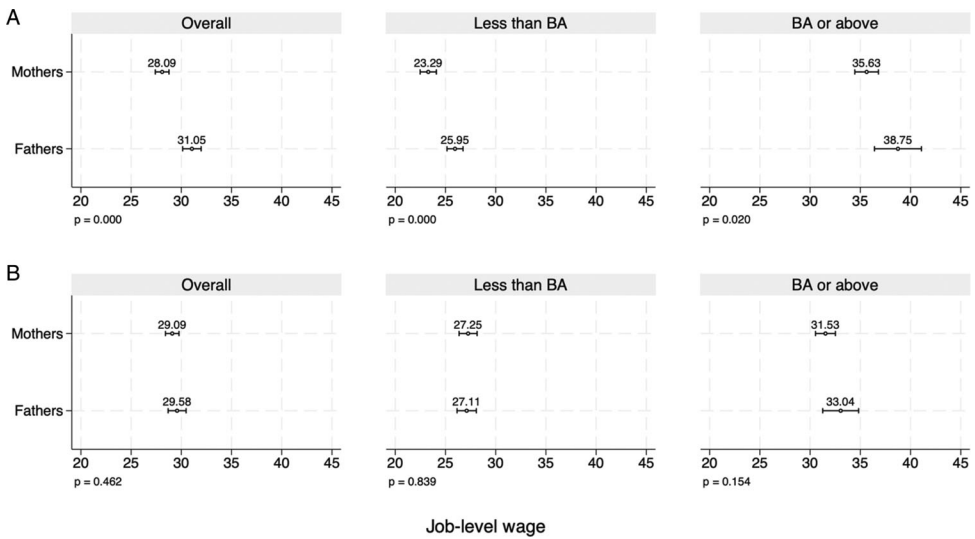


FIGURE 2 The predicted job-level wage upon re-employment. Error bars indicate 95% confidence intervals. Job-level wage is adjusted to December 2022 dollars. The significance of the father–mother difference is indicated by the p -value on the bottom left of each subgraph (see Appendix Table 4 for model results). (A) Baseline models without controls. (B) Full models with all controls.

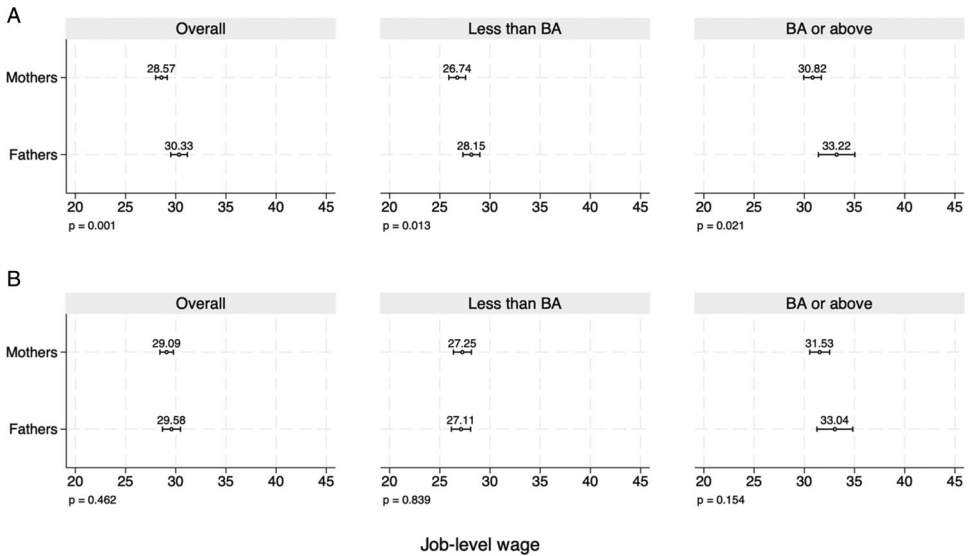


FIGURE 3 The predicted job-level wage upon re-employment, models excluding job-level gender composition and full models with all controls. Error bars indicate 95% confidence intervals. Job-level wage is adjusted to December 2022 dollars. The significance of the father–mother difference is indicated by the p -value on the bottom left of each subgraph (see Appendix Table 5 for model results). (A) models excluding job-level gender composition. (B) Full models with all controls.

According to postestimation tests (Mize et al., 2019), the changes in the results from Figure 3A to Figure 3B were statistically significant ($p < .001$), suggesting that the inclusion of job-level gender composition explained the gender gap in job-level wage upon re-employment. Compared with mixed-gender jobs, job-level wage upon re-employment was significantly lower

in women-dominated jobs and higher in men-dominated jobs ($p < .05$ for both; Appendix Table 5). Meanwhile, fathers were concentrated in men-dominated jobs and mothers were concentrated in women-dominated jobs, a pattern that became even more pronounced upon re-employment. For instance, as shown in Table 1, before job loss, fathers had been five times more likely than mothers to work in men-dominated jobs (64% vs. 12%); upon re-employment, the probability of working in men-dominated jobs increased to 66% for fathers but decreased to 9% for mothers. Additionally, working in women-dominant jobs had been prevalent for mothers prior to job loss (50%) and became more so upon labor market re-entry (55%). Thus, even if they had earned the same job-level wage before job loss, fathers experienced a wage advantage, at the job level, over mothers upon re-employment, which was accounted for by the entrenched and oftentimes heightened gender job segregation at the time of labor market re-entry and lower wages of women-dominated jobs relative to men-dominated ones.

DISCUSSION

In this study, we investigate gender and educational variations in re-employment prospects and job-level wage upon re-employment among parents of young children who lost their job during the COVID-19 pandemic. We use the best available data—up-to-date, nationally representative CPS data with four-month longitudinal panels. Examining a period of March 2020–December 2022 allows us to cover almost the entire pandemic, including the “new normal” (late 2022). By incorporating the full pandemic period and analyzing inequalities in re-employment chances and outcomes at the intersection of gender and education, this study helps better understand the ramifications of pandemic job losses for partnered parents. In doing so, this study advances existing important research that largely focused on the gendered impacts of the pandemic on employment and unemployment during the early months of COVID-19 (e.g., Collins et al., 2021; Dias et al., 2020; Landivar et al., 2020; Petts et al., 2021; Villarreal & Yu, 2022).

We reveal intersectional inequalities in the consequences of job loss during the pandemic as experienced by mothers and fathers of different educational levels. We find a gender gap in re-employment that was concentrated among parents without a bachelor's degree. After losing their job, mothers without a bachelor's degree were less likely than fathers without a bachelor's degree to find re-employment. The gender re-employment gap among less-educated parents persisted in the model that included a wide array of controls. Mothers often are, and are perceived by employers to be, the primary caregiver (Collins, 2019; Luhr, 2020). Less-educated mothers are particularly constrained by their lack of resources to outsource child care and access to flexible jobs to coordinate work-family needs (Qian & Sayer, 2022; Ruppner et al., 2021). Employment gaps facilitate less-educated women's abilities to organize their time and activities with gender expectations that women should prioritize homemaking and childrearing. Thus, securing re-employment may be seen as less urgent by these women, their partners, and potential employers (Damaske, 2021). Less-educated women's employment interruptions, especially brought about by caregiving demands, may also trigger employers' concerns over these women's ongoing child-care needs, future productivity, and job commitment, and thus heighten employers' reluctance to offer re-employment opportunities (Weisshaar, 2018). Employer biases in hiring and gendered prioritization at home may have worked together to place less-educated mothers in particularly disadvantaged positions regarding finding re-employment after COVID-19 job losses.

In addition, we examine a critical material outcome that is overlooked in research on gendered impacts of the pandemic—the average wage of a parent's job upon re-employment. We uncover a gender gap in the average job-level wage upon re-employment. Mothers had a lower job-level wage upon re-entry than fathers, even if they had worked at jobs with the same average wage before labor market exit. Moreover, the gender gap in job-level wage upon re-entry

was similar among parents with and without a bachelor's degree and can be explained by gendered job segregation. Scholars have long shown that occupational segregation reproduces gender labor market inequalities (e.g., Blau & Kahn, 2017; England et al., 1996; Levanon et al., 2009). Our study is one of the first to reveal how segregation played out in the pandemic related to wages. Mothers who re-entered the labor market secured lower-paying jobs than fathers mainly because they were re-employed in women-dominated jobs, with mothers being even more likely to be in a segregated job than they had been pre-job loss. The gender gap in re-employment wages was driven largely by structural inequality—occupational segregation and the devaluation of women-dominated jobs, which advantaged fathers across the educational hierarchy.

Although not the focus of our study, we also ran a parallel analysis for the pre-pandemic period (March 2017–December 2019) and our main findings held: less-educated mothers were less likely than less-educated fathers to find re-employment, and job-level wages upon re-entry were lower for mothers than fathers due to gendered job segregation. According to these results, it appears that the pandemic did not alter gender and educational variations in re-employment prospects and outcomes. This is surprising given that the pandemic disproportionately hurt women-dominated jobs and increased women's child care demands (Yavorsky et al., 2021). Mothers may have effortfully managed child care through informal arrangements and/or expanded their job searches during the pandemic years, to facilitate their labor market re-entry (Gowayed et al., 2022; Yang et al., 2022). The rise in telecommuting during the pandemic also could have pulled mothers into the labor market, thus offsetting some of the additional losses (in re-employment and wages) that likely would have occurred (Montenovo et al., 2022). At the same time, the consistency of the results highlights the stickiness of gender—in crises and non-crises, gendered re-employment and wage patterns remain.

Taking our results for labor market re-entry and wages together, our study indicates that compared to fathers, less-educated mothers paid two gender-related penalties: one for labor market re-entry and another for job-level wage once re-employed. College-educated mothers were similar to fathers in their likelihood of re-entry, but they fared worse in terms of wages once re-employed. More broadly, these gender wage gaps upon re-entry help sustain women's stalled economic progress—men are able to retain gender wage advantages even in cases in which they have employment interruptions. Extending previous scholarship on ideal worker norms (e.g., Cha, 2010; Zanhour & Sumpter, 2022), our study highlights that career penalties appear harsher for women than men when both genders do *not* fit ideal worker norms due to employment gaps.

This study is not without limitations. First, although we use the best data available, we are limited to using the average wage in one's occupation-industry combination because the CPS does not ask about individual wages in enough waves. Job-level wage is not a perfect measure of an individual's wage, but it tells us something of importance about job quality and the structural limits (or lack thereof) on upward mobility in wages (Dwyer, 2013). Relatedly, our study likely reflects a *conservative* test of gender wage inequality after re-employment. Using the average job-level wage likely *underestimates* men's wages (and *overestimates* women's wages), given that men tend to be clustered in higher-paying specialties and establishments than women even when they hold the same job (Fuller, 2018; Pelley & Carnes, 2020; Snyder & Green, 2008). Second, because the CPS contains only four-month panels, we cannot track career consequences of long-term unemployment or career interruptions. This fact provides further support for our study being a conservative test because less-educated mothers were less likely to secure re-employment within a couple of months following job losses; employment interruptions that lasted for even longer durations could further diminish their chances of re-entering the labor market and accessing high-paying jobs upon re-employment (Abraham et al., 2019; Brand, 2015).

Taken together, our study highlights the gendered heterogeneity of job re-entry and wage patterns during the pandemic. After losing or quitting their job during COVID-19, less-educated mothers had lower chances of re-employment than less-educated fathers. Upon re-employment, mothers, irrespective of their education, had a lower job-level wages than fathers, even controlling for the wage of their last job. This gender inequality in job-level wage upon re-employment had structural roots, resulting from occupational gender segregation and the devaluation of women-dominated jobs. Overall, compared to fathers, mothers, particularly less-educated mothers, paid a higher price for their time out of work during the pandemic.

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SUPPORTING INFORMATION

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