The economic crisis unleashed by the COVID-19 pandemic has exacerbated gender inequalities. Women’s paid work has been more severely impacted than men’s despite many of the essential jobs that remained operational during stay-at-home orders being feminized occupations (Addati et al. 2018; Carli 2020; Robertson and Gebeloff 2020; UN 2020). Unique to the COVID-19 pandemic is the large-scale increase in work-family conflict resulting from school closures and interruptions in other care services that individuals rely on to free their time for paid work (Collins, Ruppanner, et al. 2021). Both scholarship and popular media highlight how work-family conflict contributes to declines in women’s economic prospects (Carli 2020). Women are not (only) losing jobs because their employers lay off workers, they are also being pulled out of jobs to become the backup caregivers in their families and communities (Alon et al. 2020a; Power 2020; UN 2020).

While different studies have documented the gendered impact of the COVID-19 pandemic, the relative relevance of labor market and work-family processes remains unclear. Studies focused on labor market processes conclude that most of the increase in gender inequality can be connected to preexisting patterns of gender segregation and inequality in the labor market (Badal and Robison 2020; Carli 2020; ILO 2020; OECD 2020; Reichelt, Makovi, and Sargsyan 2021; UN 2020), whereas a separate strand of research focused on different-sex couples with children concludes that work-family conflict is a major driver (Collins, Landivar, et al. 2021; Feng and Savani 2020; Power 2020; Yerkes et al. 2020). Differences in analytical samples and modeling strategies across studies have made it difficult to assess the relative importance of these two processes. Furthermore, assessments of the role of work-family conflict often exclude single parents who also face accentuated pandemic-induced work-family conflict (Hertz, Mattes, and Shook 2021; Montenovo et al. 2020; Zhou et al. 2020). Moreover, existing research has not yet considered the moderating role of women’s economic position within families in paid work outcomes, which theories about the gender division of household labor highlight as potentially important (Bittman et al. 2003; Perry-Jenkins and Gerstel 2020).
This article offers an integrated analysis of the increase in gender inequality in paid work during the pandemic in the United States, particularly focusing on evaluating the relative relevance of labor market and work-family processes. We conceptualize the increase in gender inequality during the pandemic as resulting from multiple layers of gendered work and family disadvantage processes that connect to persisting patriarchal views about women’s responsibility for caregiving. More specifically, our analysis examines four processes that can result in the pandemic impacting women’s paid work more negatively than men’s: (a) prepandemic gender differences in labor market positions might have put women at a heightened risk of job loss, (b) women’s greater likelihood of living in households with caregiving needs exposed women to pandemic-induced work-family conflict more than men (i.e., single-parent households are disproportionately women-headed), (c) women’s higher probability to earn less than their male partners in different-sex unions might have lowered their bargaining power and the priority given to their paid work commitments in a context of heightened work-family conflict, and (d) gender-based assignments of caregiving responsibilities within families might have prompted greater reductions in women’s paid work regardless of their economic position relative to their partners. Whereas the first three processes are compositional—they stem from the combination of gender differences in prepandemic positions in labor markets and families and the differentiated impact of the pandemic across these positions—the last process is what we call a direct gender process, resulting wholly from gender biases in assigning responsibility for caregiving. By examining each of these processes in the same integrated analysis, our study explicitly integrates single-parent households and women’s economic position relative to male partners into a comprehensive assessment of the relevance of work and family processes in increasing gender inequality during the pandemic.

We use panel data from the United States Current Population Survey (CPS) and individual fixed-effects models to analyze how the increase in gender inequality during the pandemic is related to each of the four processes defined previously. We leverage detailed information about prepandemic labor market position, family configuration, and economic position relative to partners to evaluate whether the differential impact of the pandemic across these dimensions changes the estimated increase in gender inequalities in paid work. Our results show that increases in gender inequality during the pandemic largely stem from gender inequalities in households with children, which is consistent with the direct gender process and with existing research emphasizing the role of work-family conflict during the pandemic (Collins, Landivar, et al. 2021; Landivar et al. 2020; Petts, Carlson, and Pepin 2021). Nonetheless, the results show that prepandemic differences in labor market positions and the higher prevalence of women in lower earner position relative to their partners also contribute to pandemic gender inequality. The higher prevalence of women among single-parent households does little to contribute to overall increases in gender inequality despite single parents being more negatively impacted by the pandemic than partnered women and men. The small contribution of this last component is related to the relatively smaller size of this group in the overall population.

**Background**

Research about the impact of the pandemic on paid work has identified a widening gender gap in various paid work outcomes, including work hours, levels of unemployment, and earnings. Current studies point to preexisting gender inequalities in the labor market and work-family conflict mechanisms, but these processes have generally been studied separately, and it remains unclear which has been more influential in generating increases in gender inequality during the pandemic.

On the one hand, studies focusing on labor market processes often conclude that preexisting patterns of inequalities and occupational segregation play a key role in explaining why the pandemic has increased gender inequality in paid work (Hayes et al. 2020; Holder, Jones, and Masterson 2021; Kochhar 2020; Kochhar and Bennett 2021; Monge, Pilossoph, and Weinberg 2021; Reichelt et al. 2021; Shibata 2021). Shibata (2021), for instance, finds that gender inequalities in job losses during the pandemic disappear after controlling for types of jobs. Similarly, Alon et al. (2020a, 2020b) argue that greater losses in women’s employment are related to feminized sectors of the economy being more severely hit during the pandemic and women’s underrepresentation in critical occupations and occupations that can be carried out remotely.

On the other hand, other studies conclude that pandemic-induced work-family conflict has been the key driver of increases in gender inequality in paid work. Most studies on this topic focus on different-sex couples with children (Collins, Landivar, et al. 2021; Collins, Ruppanner, et al., 2021; Heggeness 2020; Landivar et al. 2020; Petts et al. 2021; Verkes et al. 2020; Zamarro and Prados 2021), although single-parent households also face accentuated pandemic-induced work-family conflict (Hertz et al. 2021; Montenovo et al. 2020; Zhou et al. 2020). Research finds that among different-sex couples with children, mothers have been more likely than fathers to experience declines in employment, hours of paid work, and productivity (Collins et al. 2021a, 2021b; Cowan 2020; Feng and Savani 2020; Heggeness 2020; Landivar et al. 2020; Petts et al. 2021; Zamarro and Prados 2021). Consistent with the work-family conflict mechanism, studies find that declines in mothers’ paid work outcomes have been greater in districts with more prolonged school closures (Collins, Ruppanner, et al. 2021) and that the pandemic has increased women’s unpaid work more than men’s (Alon et al. 2020a; Del Boca et al. 2021; Deryugina, Shurchkov, and Stearns 2021; Farré et al. 2020; Jessen et al. 2021; Zamarro and Prados 2021).
Women’s Single-Parent and Lower Earner Status as Contributors to Gender Inequalities in Paid Work

To further improve the understanding about the relevance of work-family conflict processes, we argue that analyses need to explicitly consider the role of single parents and women’s economic position relative to male partners. The motivation for incorporating single parents is straightforward. Pandemic-induced increases in work-family conflict have been intensely felt among single-parent households (Hertz et al. 2021; Montenovo et al. 2020; Zhou et al. 2020), and the vast majority of single-parent households are women-led (Hemez and Washington 2021). This compositional factor suggests that women were much more exposed to pandemic-induced work-family conflict than men and that this might have contributed to increases in gender inequality in paid work.

The motivation for examining the role of women’s economic position relative to male partners comes from longstanding theories about the gender division of household labor in different-sex couples. There are two broad perspectives on this issue. On the one hand, rational choice and bargaining power perspectives expect households, driven by utility maximizing forces (Becker 1974, 1993) and/or bargaining power inequalities (Bittman et al. 2003), to prioritize the paid work commitments of the household’s highest earner and to concentrate work-family incompatibilities on the lower earner. From this angle, the pandemic might have impacted women more negatively than men because women are more likely to earn less than their partners.

On the other hand, gender theories expect women’s economic position relative to their partners to matter very little or to matter in a different way. Gender scholars argue that women are structurally assigned the responsibility for caregiving and dealing with work-family conflict irrespective of their economic position relative to their partners (Bittman et al. 2003; Tichenor 2005). From this angle, the pandemic-induced work-family conflict might have impacted women in different-sex unions more negatively than men not because women are more likely to earn less than their partners but just because they are women.

Gender scholars also suggest that women’s economic position relative to male partners might moderate how work-family conflict impacts women’s paid work commitments but in a different way than that hypothesized by the aforementioned economic theories. In particular, the gender display or compensatory behavior hypothesis suggests that work-family conflict will impact women more negatively both when they earn less and more than their partners. This is because different-sex couples with gender-nonnormative divisions of labor might experience an accentuated pressure to conform to gender expectations, which incites compensatory behavior (Bittman et al. 2003; Brines 1994; Greenstein 2000; Gupta 1999; Hochschild and Machung 1989; Schneider 2012). From this perspective, the impact of the economic position relative to one’s partner is gendered: Reductions of paid work are expected of women whether they are lower or higher earners, but for men, neither position is expected to result in reductions in their paid work; in fact, men in lower earner positions might be particularly protected to fulfill their breadwinner role (Bittman et al. 2003; Brines 1994; Schneider 2011). If this gender display pattern holds, the compositional fact that women are more likely to earn less than their partners than the reverse will not contribute to increases in gender inequality in paid work.

To date, we know of no studies examining the role of women’s economic position in the household to assess the impact of the pandemic on paid work. The few studies that have considered couples’ power inequalities have focused mainly on unpaid work (Carlson, Petts, and Pepin 2020).
family composition); (c) a more negative impact of the pandemic on lower earners in couples facing pandemic-induced work-family conflict affecting larger numbers of women than men (i.e., relative earner composition); and (d) a more negative impact of the pandemic on women irrespective of or slightly moderated by their earnings position in households with children (i.e., direct gender process).

We expect gender inequality in all paid work outcomes to increase during the pandemic and each of the processes described previously to play a role in generating these increases, but it is unclear which process will play a greater role.

**Data, Measurement, and Methods**

We use panel data from the Current Population Survey to examine the mechanisms driving the increase in gender inequality in paid work during the COVID-19 pandemic. The CPS is a nationally representative household survey that collects information on employment status and other economic characteristics on a monthly basis. The CPS sample is structured as a set of short rotating panels. Respondents are included in the CPS for four consecutive months, then they temporarily leave the sample for eight months, and they are interviewed again for four consecutive months.

Our analytical sample includes individuals 16 to 60 years old who are employed at the time of the first interview and who have one positive earnings observation before the pandemic, or March 2020.1 The sample is restricted to respondents who completed the eight waves of the survey during the period of analysis.2 We use data spanning December 2018 through January 2021 to account for pre-pandemic trends and examine the change in gender inequality during the pandemic prevaccination phase. The final full sample includes 28,804 individuals. Table S1 in the supplement provides an illustration of the structure of our sample.

**Measures**

The analysis examines three paid work outcomes: employment, hours of work, and weekly earnings. Employment is operationalized as a dummy variable that equals 1 if the respondent has a job and 0 if otherwise. Hours of work is a continuous variable that measures usual weekly work hours at all current jobs. Weekly earnings is a continuous variable reporting usual total earnings at their current job before taxes and other deductions. The variables hours of work and weekly earnings are logged for the analyses.

Key independent variables are as follows. We measure the pandemic using a period dummy indicator \((0 = \text{before March 2020}; 1 = \text{after March 2020})\). Respondents’ gender is measured in two categories \((0 = \text{men}; 1 = \text{women})\). Respondents’ pre-pandemic labor market positions are measured using information about education, occupation, industry, and part-time employment. Education is measured in three categories \((1 = \text{high school or less}; 2 = \text{some college}; 3 = \text{college degree})\). Occupation and industry are measured using the two-digit census classifications, including 98 categories for occupation and 90 for industry. Part-time employment is measured in two categories \((0 = \text{full-time employed}, \text{over 35 hours per week}; 1 = \text{part-time employed})\). Respondents’ pre-pandemic family configuration is measured combining information about partner status and children in a four-category variable \((1 = \text{nonpartnered, no children}; 2 = \text{nonpartnered, with children}; 3 = \text{partnered, no children}; 4 = \text{partnered, with children})\). A respondent is identified as having children if they live with one or more own children ages 0 to 16.

To evaluate how the economic position relative to one’s partner might further shape the impact of the pandemic on paid work outcomes, we expand the four-category family configuration variable to incorporate information about relative earnings position \((1 = \text{nonpartnered, no children}; 2 = \text{nonpartnered, with children}; 3 = \text{partnered, no children}; 4 = \text{partnered, with children}; 5 = \text{same as partner}; 6 = \text{more than partner}; 7 = \text{less than partner}; 8 = \text{same as partner})\). Our measure of relative earnings position is based on predicted earnings values obtained from regression models using the American Community Survey 2019. These models predict logged annual earnings for full-time year-round workers as a

---

1Because earnings are only reported at Waves 4 and 8, this means that all respondents in our analytical sample need to report positive earnings at Wave 4. This also means that our analyses of weekly earnings are restricted to observations in Waves 4 and 8. In our analytical sample, these observations are evenly distributed across months (see Table S3 in the supplement).

2Because earnings data are only available in Waves 4 and 8, this restriction is needed to obtain the same analytical sample for all outcomes. Sensitivity analyses confirm that our results do not substantively change if we use an unbalanced sample including attritors in analyses of employment and work hours (see Figure S2 in the supplement). CPS sample attrition increased during the COVID-19 pandemic, and there is evidence that nonresponse rates are not random (for more information, see: https://cps.ipums.org/cps/covid19.shtml).

3Operationalizing the pandemic as a period “effect” ignores the fact that the intensity of the pandemic fluctuated over time. We think this simplification is justified by the fact that our analysis only covers the prevaccination period, which was characterized by shelter-in-place regulations and widespread school closures. Supplementary analyses indicate that the pattern of results does not vary in this period. Analysis available upon request.

4The cut-off points are: earnings less than partner = share of couple’s earnings potential is below 40 percent; earnings the same as partner = share of couple’s earnings potential is between 40 and 60 percent; earnings more than partner = share of couple’s earnings potential is over 60 percent.
function of age, age squared, detailed education categories (six categories), detailed occupation categories (three digits), detailed industry categories (three digits), and state fixed effects. Regressions are run separately for men and women. The predicted values are merged onto our CPS sample matching one-to-one on all characteristics included in the predicted earnings regression. We transform the predicted earnings values to hourly rates and multiply the predicted hourly rate by respondents’ usual work hours before the pandemic. The final relative earnings position variable captures within-couple differences in earnings potential and work effort. For similar approaches using predicted earnings potential, see Gonalons-Pons and Schwartz (2017) and Xie et al. (2003). We measure relative economic position using predicted earnings instead of observed earnings because the CPS panel data include only two measures of earnings per respondent (at Waves 4 and 8). Using the observed earnings measure would limit the analytical sample or require additional assumptions. Sensitivity analyses confirm that our results are robust to using observed relative earnings instead of predicted relative earnings and robust to alternative measures of economic position based on observed work hours (see Table S8 in the supplement). Table S2 in the supplement presents descriptive statistics for our analytical sample.

Method

We use individual fixed-effects regression models to examine the change in gender disparities in paid work during the pandemic. Our goal is to evaluate the relative role of labor market and work-family conflict processes. The initial estimate of interest is the change in gender inequality before versus during the pandemic, and successive models examine how this gender inequality estimate changes when the model incorporates parameters to capture the processes of interest. We use individual fixed-effects models to address the concern that changes in the distribution of individuals’ time-fixed characteristics might be correlated with the pandemic period change. Fixed-effects regressions only leverage within-individual variation to control for time-constant unobserved heterogeneity across individuals and cannot estimate coefficients for time-fixed characteristics. However, fixed-effects regression models can estimate coefficients for the interaction between time-fixed characteristics and time-varying factors. We leverage this feature to examine how the inclusion of interaction parameters between the pandemic and respondents’ pre-pandemic labor market and family positions changes the estimated increase in gender inequality during the pandemic. The initial baseline model can be written as follows:

\[
Y_{imy} = \beta_0 + \beta_1 P_y + \beta_2 P_y \times G_i + \alpha_i + \mu_m + \mu_y + \epsilon_{imy},
\]

where \(Y_{imy}\) is a measure of paid work (employment, work hours, or weekly earnings) for individual \(i\) in month \(m\) and year \(y\). \(\beta_1\) is a coefficient for the indicator of the pandemic. This coefficient estimates the average within-person change in the outcome variable before versus during the pandemic. \(\beta_2\) is a coefficient for the interaction between the pandemic indicator and a gender dummy variable. This is our key estimate of interest that measures the change in gender inequality during the pandemic. \(\alpha_i\) denotes individual fixed effects that are not explicitly estimated, and \(\mu_m\) and \(\mu_y\) are coefficients for month and year fixed effects, respectively.

To examine whether the change in gender inequality during the pandemic (\(\beta_2\)) is related to the four processes of interest, we augment the baseline model and incorporate interactions between the pandemic indicator and individuals’ pre-pandemic labor market and family positions in a stepwise fashion. These models allow for the change in the outcome variable during the pandemic to vary across pre-pandemic characteristics and provide an estimate of the change in gender inequality (\(\beta_2\)) that would have been observed if the distribution of men and women across pre-pandemic characteristics had been equal. The second model, for instance, includes interactions with time-fixed pre-pandemic age, education, and labor market characteristics to estimate the gendered impact of the pandemic net of heterogeneous changes in the outcome variable during the pandemic across individuals at various age, education, and labor market positions (i.e., the labor market composition process). This model can be written as follows:

\[
Y_{imy} = \beta_0 + \beta_1 P_y + \beta_2 P_y \times G_i + \alpha_i + \mu_m + \mu_y + \epsilon_{imy},
\]

where \(\beta_3, \beta_4, \beta_5, \beta_6\) and \(\beta_7\) are sets of coefficients for the interactions between the pandemic indicator and respondents’ pre-pandemic age, education, occupation, industry, and part-time employment status, respectively. The model does not estimate main effects for these variables because they are time-fixed. Comparing \(\beta_2\) in Model 1 and Model 2 offers an estimate of the contribution of gender differences in the pre-pandemic age, education, and labor market distributions to the change in gender inequality during the pandemic. The third model includes an interaction between the pandemic indicator and the four-category family configuration variable. This model assesses whether the higher prevalence of women among households with children is associated with the increase in gender inequality (i.e., the family composition process). The fourth model adds an
interaction between the pandemic indicator and the eight-category family and relative earnings position variable to estimate the change in gender inequality net of heterogeneous changes during the pandemic across partnered individuals in different relative earnings positions (i.e., the relative earner composition process). Lastly, the final model further interacts the eight-category family and relative earnings position variable with gender to obtain a distribution of residual gender gaps for each category and examine whether the moderation of the economic position relative to partners systematically differs by gender, as suggested by the gender display and compensatory behavior hypothesis.

Because differences in $\beta_2$ across models are sensitive to the order in which controls are added to the model, we ran sensitivity analyses reversing the order and confirmed that the substantive conclusions remain unchanged (see Table S7 in the supplement). Although the models control for individual fixed effects and seasonality, it remains a possibility for the estimates to be biased if they are confounded by unobserved factors.

**Results**

**Compositional Mechanisms of Gender Gaps in Paid Work**

Figure 1 reports results from the analysis examining compositional drivers of gender gaps in paid work during the pandemic for the three dependent variables. This figure plots the key coefficient of interest ($\beta_2$) across four models that successively add interactions between the pandemic indicator and individuals’ prepandemic positions to evaluate the extent to which increases in gender gaps relate to gender differences in the distributions of labor market and family positions. Detailed regression results are available in Table S4 in the supplement. The key coefficient of interest ($\beta_2$) estimates the average difference in within-person changes in paid work outcomes before versus during the pandemic between women and men. For instance, $\beta_2$ in the baseline model for employment indicates that women’s employment declined by nearly 3 percentage points more than men’s employment. We call $\beta_2$ coefficients pandemic gender gaps. This figure also reports the percentage change in $\beta_2$ across models, which can be interpreted as the share of the pandemic gender gap associated with each set of variables. Across dependent variables, our analyses show that the pandemic gender gap is substantial and statistically significant for employment, hours of work, and weekly earnings. Recall that standard errors are larger in models for weekly earnings because the sample size is smaller (these models only include two observations per individual).

The results show that two out of the three compositional processes substantially contribute to increases in gender inequalities in paid work outcomes: labor market position and family relative earnings position. Our results indicate that controlling for differential changes in employment across labor market positions reduces the pandemic gender gap estimate by 31 percent. In other words, the pandemic gender gap in employment would have been 31 percent smaller if the gender distribution across prepandemic labor market positions had been even. This suggests that an important reason why the pandemic increased gender inequalities in paid work is because women were overrepresented in labor market positions that were more severely hit during the pandemic. This result is robust to controlling for family configuration first (see Table S7 in the supplement) and is consistent with empirical studies highlighting the relevance of labor market processes (e.g., Mongey et al. 2021; Shibata 2021). Our results also show that controlling for differential change across relative earnings positions (Model 4) reduces the pandemic gender gap in employment by 23 percent and the pandemic gaps in work hours and weekly earnings by 20 percent and 30 percent, respectively. This finding is consistent with the rational choice and bargaining theory perspectives, which expect the increase in gender inequality to be a by-product of women’s lower earner position relative to their partners.

Interestingly, the other compositional factor—family composition—does not affect the pandemic gender gap estimates. The difference between Model 2 and Model 3, which controls for differential change across family configurations and addresses the overrepresentation of women among the single-parent group, barely changes the size of the pandemic gender gap coefficients across all paid work outcomes. Supplementary analyses indicate that, as expected, the decline in paid work during the pandemic was substantially larger among single-parent households compared to other households (see Figure S1 in the supplement). However, the relevance of this compositional factor is diluted because this group represents a relatively small share of the overall sample.

Comparing across paid work outcomes reveals that all the results are remarkably similar, indicating that changes in employment are a driving force of growing gender inequality in paid work. The results suggest that decreases in employment carry through to lower weekly hours and weekly earnings. Supplementary analyses indicate that, as expected, the decline in paid work during the pandemic was substantially larger among single-parent households compared to other households (see Figure S1 in the supplement). However, the relevance of this compositional factor is diluted because this group represents a relatively small share of the overall sample.

Supplementary analyses indicate that, as expected, the decline in paid work during the pandemic was substantially larger among single-parent households compared to other households (see Figure S1 in the supplement). However, the relevance of this compositional factor is diluted because this group represents a relatively small share of the overall sample. 

Comparing across paid work outcomes reveals that all the results are remarkably similar, indicating that changes in employment are a driving force of growing gender inequality in paid work. The results suggest that decreases in employment carry through to lower weekly hours and weekly earnings. 

---

*Supplementary analyses on a sample of continuously employed individuals show no statistically significant pandemic gender gaps. In fact, among the continuously employed, we find that women fared relatively better than men, but these differences are not statistically significant after controlling for differential change across labor market positions. Women’s baseline advantage among the continuously employed could be related to differential changes in selection into employment during the pandemic. For details, see Table S9 in the supplement.*
Figure 1. Pandemic gender gaps in paid work outcomes. (a) Employment. (b) Hours of work (log). (c) Weekly earnings (log).

Source: Current Population Survey, 2018–2021.

Note: Figure 1 reports pandemic gender gap coefficients ($\beta_2$) across different models that successively control for the interaction between the pandemic indicator and individual’s prepandemic labor market and family positions. M1 includes controls for the month and year of the survey and the gender of the individual. M2 adds two-way interactions between the pandemic indicator and individual’s prepandemic labor market and family positions. M3 adds a two-way interaction between the pandemic indicator and the four-category family configuration variable. M4 adds a two-way interaction with the eight-category variable combining information about family configuration and relative earnings position. Panel robust standard errors.
Examining Residual Gender Gaps

The results thus far provide some support for the idea that gender differences in labor market positions and in economic position relative to partners are associated with the increase in gender inequality in paid work during the pandemic. However, there is a sizeable residual pandemic gender gap that remains across all paid work outcomes (although the pandemic gender gap is no longer statistically significant for weekly earnings). This result could indicate that the moderation of relative earnings position is gendered—as suggested by the gender display hypothesis—or it could also indicate that women are assigned greater responsibility for caregiving and for dealing with work-family conflict than men irrespective of their economic position. To examine this, Model 5 interacts the variable cross-classifying family configuration and relative earnings position with gender to obtain the distribution of pandemic gender gaps across categories.

Figure 2 presents the results of this exercise and shows that residual pandemic gender gaps are concentrated among partnered individuals with children. We see that pandemic gender gaps are statistically insignificant among single individuals, single parents, and partnered individuals without children (with the exception of partnered individuals without children who are equal earners). By contrast, substantial and statistically significant residual gender gaps remain among partnered individuals with children. This result is generally consistent with the idea that intensified work-family conflict would impact women more negatively regardless of their earnings position—or the direct gender process. However, this interpretation could be inaccurate if these gender differences are related to unobserved factors, such as differential vulnerability to sickness. Unfortunately, our data do not include direct measures of work-family conflict, unlike other studies that have been able to incorporate such measures (e.g., Collins, Landivar, et al. 2021; Collins, Ruppanner, et al. 2021; Del Boca et al. 2021; Jessen et al. 2021; Zamarro and Prados 2021). The size of these residual gender gaps is larger among lower earners than among equal or higher earners, but substantial across all.

To further evaluate the varying sizes in residual pandemic gender gaps, we plot pandemic penalties by gender for all categories; this exercise allows us to examine for evidence about gender display. Figure 3 shows that among women,
their earnings position relative to their partners strongly moderates the impact of the pandemic in a direction that is not consistent with the gender display hypothesis, but rather in a direction that is consistent with the bargaining and rational choice expectations: The decline in paid work during the pandemic is greatest when women are lower earners, it becomes smaller when they are equal earners, and is smallest when they are higher earners. Among men, however, there is a slight indication of a gender display pattern in that the decline in paid work during the pandemic is very similar when men are lower or equal earners and only becomes smaller when they are higher earners. Among men, however, there is a slight indication of a gender display pattern in that the decline in paid work during the pandemic is very similar when men are lower or equal earners and only becomes smaller when they are higher earners.

Figure 3 also helps contextualize the concentration of pandemic gender gaps among partnered individuals with children in the broader context of pandemic penalties. This figure shows that net of extensive labor market and sociodemographic characteristics and individual-fixed effects, the pandemic had the most negative impact among lower earner partnered women with children, followed by single mothers and fathers, equal earner partnered women with children, single men and women, all other partnered women, and lastly partnered men.

Overall, our results indicate that the largest component of the increase in gender inequality in paid work during the pandemic is a residual gender gap that is mostly concentrated among households with children. For instance, 52 percent of the pandemic gender gap in employment remains after controlling for differential change across labor market and family positions (and 62 percent for hours of work and 60 percent for weekly earnings). Of these residual pandemic gender gaps, a substantial portion belongs to households with children (e.g., 80 percent in the residual pandemic gender gap in employment is concentrated among households with children). In addition, two compositional factors play a role as well: the overrepresentation of women in lower earner positions relative to their partners and the overrepresentation of women in labor market positions (occupations, industries, jobs) that experienced stronger declines during the pandemic.

**Sensitivity and Robustness**

These findings are robust to several sensitivity tests. Analyses reversing the order in which the mechanisms are entered in
the model (e.g., starting with models that control for the interaction between the pandemic and family configuration) yield the same substantive results (see Table S7 in the supplement). The results are also robust to using more detailed industry and occupational classifications, to using detailed cross-classifications of industry by occupation, and to using alternative measures of relative economic position drawing on observed earnings or work hours data (for the latter see Table S8 in the supplement). Finally, analyses using an unbalanced sample including attritors yield the same substantive results (see Figure S2 in the supplement).

Discussion

This article offers an integrated analysis of the increase in gender inequality in paid work during the pandemic to examine the relative relevance of labor market versus work-family conflict processes. This analysis explicitly incorporates single parents, who are often excluded from studies about work-family conflict, and examines the moderating role of relative earnings position among partnered individuals. We find that the increase in gender inequality during the pandemic was partly related to the overrepresentation of women in economic sectors experiencing larger declines during the pandemic and to the more strongly negative change in paid work among lower earner partnered individuals, a family position in which women are also overrepresented. Despite single parents experiencing among the most negative changes in paid work outcomes during the pandemic, the overrepresentation of women in this group does not substantially impact overall estimates of pandemic gender gaps because the size of this group is relatively small. We find that sizeable residual pandemic gender gaps remain after controlling for differential changes across fine-grained work and family positions; about 50 percent of baseline pandemic gender gaps remain in the residual, and residual gaps are mostly concentrated among partnered individuals with children.

The size of the residual pandemic gender gaps and their concentration among partnered individuals with children are consistent with the direct gender process and with existing studies pointing to the relevance of work-family conflict in pandemic gender inequalities (e.g., Collins, Landivar, et al. 2021; Collins, Ruppanner, et al. 2021; Landivar et al. 2020; Petts et al. 2021; Zamarro and Prados 2021). Because our analysis does not directly measure work-family conflict, our interpretation of the residual could be flawed if unmeasured factors unrelated to the direct gender process were driving residual gender differences in paid work changes during the pandemic. Nonetheless, studies including direct measures of work-family conflict or unpaid work have provided evidence in support of this interpretation (e.g., Collins, Landivar, et al. 2021; Collins, Ruppanner, et al. 2021; Del Boca et al. 2021; Landivar et al. 2020; Zamarro and Prados 2021). Our study contributes to the existing evidence by examining the relevance of the work-family conflict process in the overall population and net of other labor market and family processes. Additionally, by evaluating the association between the pandemic gender gap and the relative earnings position in couples, our analysis offers new evidence about the relevance of rational choice and/or bargaining power processes as well as gender display dynamics during the pandemic. The results are consistent with the expectation that rational choice and/or bargaining power processes moderate women’s paid work outcomes, but the role of these processes is relatively small compared to the pandemic gender gap residual. For men, the results suggest that a gender display dynamic might be at play in protecting men in lower earner positions.

There are several limitations to our analysis. Longer panel data would provide more accurate measures of prepandemic labor market and relative earner positions, and it would allow us to cover a longer period during the pandemic and examine differences across phases of the pandemic (i.e., prevaccination vs. postvaccination). Direct measures of work-family conflict could be useful to disentangle potential confounders in the residual gender gap among parents. This study examines gender gap averages across ethno-racial groups, thus ignoring systematic heterogeneity among them. Examining this variation falls outside the scope of this article, but it is a pressing question to be taken up by future research.

While our framework differentiates three compositional factors and one direct gender process, it is important to highlight how all factors are connected to the broader gender structure, in particular the persisting patriarchal social expectation of women to be caregivers. Gendered caregiving expectations and responsibilities partly account for producing prepandemic gender differences in labor market and family positions, that is, for the concentration of women in part-time jobs that were disproportionately discontinued during the pandemic and in single-parent households or in lower earner position relative to their partners, with both of these social locations being disproportionately impacted during the pandemic. Thus, the relevance of compositional factors should not be interpreted as unrelated to gender structures. By differentiating these factors, we learn more about the different pathways through which gender structures leave an imprint on gender inequality during the pandemic. Our findings highlight that not only have women seen more negative declines in paid work than men, but they have also acted as key buffers protecting partnered men’s paid work. The decline in paid work during the pandemic has been smallest among men partnered to women who suffer the largest declines in paid work outcomes, indicating that women’s shift to unpaid work helped bolster and protect men’s economic status.

Funding and conflict of interest statements

This research was carried out in part using the facilities of the University of Pennsylvania Population Studies Center (R24 HD044964). The content is solely the responsibility of the authors.
The authors are not aware of any conflict of interest that would affect the conclusions expressed in this research. We thank the Socius editors and reviewers for their thoughtful comments and suggestions. This work was presented at the 2021 Annual Meeting of the American Sociological Association.

**ORCID iDs**

Yasmin A. Mertehikian [ORCID: 0000-0003-3139-8990]

Pilar Gonalons-Pons [ORCID: 0000-0002-5684-1525]

**Supplemental Material**

Supplemental material for this article is available online. The replication code of the analyses is available upon request.

**References**

Addati, Laura, Umberto Cattaneo, Valeria Esquivel, and Isabel Valarino. 2018. *Care Work and Care Jobs for the Future of Decent Work*. Geneva: ILO.

Alon, Titan, Matthias Doepke, Jane Omlstead-Rumsey, and Michèle Tertill. 2020a. “The Impact of COVID-19 on Gender Equality.” Working Paper No. 26947. National Bureau of Economic Research, Cambridge, MA.

Alon, Titan, Matthias Doepke, Jane Omlstead-Rumsey, and Michèle Tertill. 2020b. “This Time It’s Different: The Role of Women’s Employment in a Pandemic Recession.” Working Paper No. 27660. National Bureau of Economic Research, Cambridge, MA.

Badal, Sangeeta Bharadwaj, and Jennifer Robison. 2020. “Stress and Worry Rise for Small-Business Owners, Particularly Women.” Gallup. https://www.gallup.com/workplace/311333/stress-worry-rise-small-business-owners-particularly-women.aspx.

Becker, Gary S. 1974. “A Theory of Marriage.” In *Pp. 299–351 in Economics of the Family: Marriage, Children, and Human Capital*, edited by T. W. Schultz Chicago, IL: University of Chicago Press.

Becker, Gary S. 1993. *A Treatise on the Family*. Cambridge, MA: Harvard University Press.

Bittman, Michael, Paula England, Liana Sayer, Nancy Folbre, and George Matheson. 2003. “When Does Gender Trump Money? Bargaining and Time in Household Work.” *American Journal of Sociology* 109(1):186–214.

Brines, Julie. 1994. “Economic Dependency, Gender, and the Division of Labor at Home.” *American Journal of Sociology* 100(3):652–88.

Carli, Linda L. 2020. “Women, Gender Equality and COVID-19.” *Gender in Management: An International Journal* 35(7/8):647–55.

Carlson, Daniel L., Richard Petts, and Joanna Pepin. 2020. “Changes in Parents’ Domestic Labor During the COVID-19 Pandemic.” SocArXiv. https://osf.io/preprints/socarxiv/jy8fn/.

Collins, Caitlyn, Liana Christin Landivar, Leah Ruppanner, and William J Scarborough. 2021. “COVID-19 and the Gender Gap in Work Hours.” *Gender, Work & Organization* 28:101–12.

Collins, Caitlyn, Leah Ruppanner, Liana Christin Landivar, and William J. Scarborough. 2021. “The Gendered Consequences of a Weak Infrastructure of Care: School Reopening Plans and Parents’ Employment During the COVID-19 Pandemic.” *Gender & Society* 35(2):180–93.

Cowan, Benjamin W. 2020. “Short-Run Effects of COVID-19 on US Worker Transitions.” Working Paper No. 27315. National Bureau of Economic Research, Cambridge, MA.

Del Boca, Daniela, Noemi Oggero, Paola Profeta, and Maria Cristina Rossi. 2021. “Did COVID-19 Affect the Division of Labor within the Household? Evidence from Two Waves of the Pandemic in Italy.” SSRN. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3863828.

Deryugin, Tatyana, Olga Shurchkov, and Jenna Stearns. 2021. “COVID-19 Disruptions Disproportionately Affect Female Academics.” Working Paper No. 28360. National Bureau of Economic Research, Cambridge, MA.

Farré, Lidia, Yarina Fawaz, Libertad González, and Jennifer Graves. 2020. “How the COVID-19 Lockdown Affected Gender Inequality in Paid and Unpaid Work in Spain.” SSRN. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3643198.

Feng, Zhiyu, and Krishna Savani. 2020. “Covid-19 Created a Gender Gap in Perceived Work Productivity and Job Satisfaction: Implications for Dual-Career Parents Working from Home.” *Gender in Management: An International Journal* 35(7/8):719–36.

Gonalons-Pons, Pilar, and Christine R Schwartz. 2017. “Trends in Economic Homogamy: Changes in Assortative Mating or the Division of Labor in Marriage?” *Demography* 54(3):985–1005.

Greenstein, Theodore N. 2000. “Economic Dependence, Gender, and the Division of Labor in the Home: A Replication and Extension.” *Journal of Marriage and Family* 62(2):322–35.

Gupta, Sanjiv. 1999. “Gender Display? A Reassessment of the Relationship between Men’s Economic Dependence and Their Housework Hours.” Paper presented at the annual meeting of the American Sociological Association, Chicago, IL.

Hayes, Jeffrey, C. Nicole Mason, Heidi Hartmann, and Erin Weber. 2020. “Widespread Decline in Household Income During COVID-19 Pandemic Contributes to Food Insufficiency among Families.” Institute for Women’s Policy Research. https://iwpr.org/iwp-issues/esme/food-insufficiency-among-families/.

Hertz, Rosanna, Jane Mattes, and Alexandria Shook. 2021. “COVID-19 Disruptions Disproportionately Affect Female Academics.” Working Paper No. 28360. National Bureau of Economic Research, Cambridge, MA.

Hochschild, Arlie, and Anne Machung. 1989. *The Second Shift: Working Parents and the Revolution at Home*. New York, NY: Viking.
Holder, Michelle, Janelle Jones, and Thomas Masterson. 2021. “The Early Impact of COVID-19 on Job Losses among Black Women in the United States.” *Feminist Economics* 27(1/2):103–16.

ILO. 2020. “ILO Monitor: COVID-19 and the World of Work.” Third Edition. Updated Estimates and Analysis. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_743146.pdf.

Jessen, Jonas, C. Katharina Spiess, Sevrim Waights, and Katharina Wrohlich. 2021. “Sharing the Caring? The Gender Division of Care Work During the Covid-19 Pandemic in Germany.” SSRN. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3870188.

Kochhar, Rakesh. 2020. “Unemployment Rose Higher in Three Months of COVID-19 Than It Did in Two Years of the Great Recession.” Pew Research Center. https://www.pewresearch.org/fact-tank/2020/06/11/unemployment-rise-higher-in-three-months-of-covid-19-than-it-did-in-two-years-of-the-great-recession/.

Kochhar, Rakesh, and Jesse Bennett. 2021. “US Labor Market Inches Back from the COVID-19 Shock, but Recovery Is Far from Complete.” Pew Research Center. https://www.pewresearch.org/fact-tank/2021/04/14/us-labor-market-inches-back-from-the-covid-19-shock-but-recovery-is-far-from-complete/.

Landivar, Liana Christin, Leah Ruppanner, William J Scarborough, and Caitlyn Collins. 2020. “Early Signs Indicate That COVID-19 Is Exacerbating Gender Inequality in the Labor Force.” *Socius* 6:10.1177/237802321947997.

Mongey, Simon, Laura Pilosoph, and Alexander Weinberg. 2021. “Which Workers Bear the Burden of Social Distancing?” *Journal of Economic Inequality* 19(3):509–26.

Montenovo, Laura, Xuan Jiang, Felipe Lozano Rojas, Ian M Schmutte, Kosali I Simon, Bruce A Weinberg, and Coady Wing. 2020. “Determinants of Disparities in COVID-19 Job Losses.” Working Paper No. 27132. National Bureau of Economic Research, Cambridge, MA.

OECD. 2020. “Women at the Core of the Fight Against COVID-19 Crisis.” OECD. https://www.oecd.org/coronavirus/policy-responses/women-at-the-core-of-the-fight-against-covid-19-crisis-553a8269/.

Perry-Jenkins, Maureen, and Naomi Gerstel. 2020. “Work and Family in the Second Decade of the 21st Century.” *Journal of Marriage and Family* 82(1):420–53.

Petts, Richard J., Daniel L. Carlson, and Joanna R. Pepin. 2021. “A Gendered Pandemic: Childcare, Homeschooling, and Parents’ Employment During COVID-19.” *Gender, Work & Organization* 28:515–34.

Power, Kate. 2020. “The COVID-19 Pandemic Has Increased the Care Burden of Women and Families.” *Sustainability: Science, Practice and Policy* 16(1):67–73.

Reicheck, Mel, Kinga Makovi, and Anahit Sargysyan. 2021. “The Impact of COVID-19 on Gender Inequality in the Labor Market and Gender-Role Attitudes.” *European Societies* 23(Suppl. 1):S228–45.

Robertson, Campbell, and Robert Gebeloff. 2020. “How Millions of Women Became the Most Essential Workers in America.” *The New York Times*, April 18. Updated September 22, 2021. https://www.nytimes.com/2020/04/18/us/coronavirus-women-essential-workers.html.

Schneider, Daniel. 2011. “Market Earnings and Household Work: New Tests of Gender Performance Theory.” *Journal of Marriage and Family* 73(4):845–60.

Schneider, Daniel. 2012. “Gender Deviance and Household Work: The Role of Occupation.” *American Journal of Sociology* 117(4):1029–72.

Shibata, Ippei. 2021. “The Distributional Impact of Recessions: The Global Financial Crisis and the COVID-19 Pandemic Recession.” *Journal of Economics and Business* 115:105971. doi:10.1016/j.jeconbus.2020.105971.

Tichenor, Veronica. 2005. “Maintaining Men’s Dominance: Negotiating Identity and Power When She Earns More.” *Sex Roles* 53(3):191–205.

UN. 2020. “Policy Brief: The Impact of COVID-19 on Women.” https://www.unwomen.org/en/digital-library/publications/2020/04/policy-brief-the-impact-of-covid-19-on-women.

Xie, Yu, James M. Raymo, Kimberly Goyette, and Arland Thornton. 2003. “Economic Potential and Entry into Marriage and Cohabitation.” *Demography* 40(2):351–67.

Yerkes, Mara A., Stéfanie André, Debby G. J. Beckers, Janna Besamusca, Peter Mathieu Kruyen, Chantal Remery, Roos van der Zwan, and Sabine Geurts. 2020. “Intelligent Lockdown, Intelligent Effects? The Impact of the Dutch COVID-19 ‘Intelligent Lockdown’ on Gendered Work and Family Dynamics among Parents.” SocArXiv. https://osf.io/preprints/socarxiv/ujq2pp/.

Zamarr, Gema, and Maria J. Prados. 2021. “Gender Differences in Couples’ Division of Childcare, Work and Mental Health During COVID-19.” *Review of Economics of the Household* 19(1):11–40.

Zhou, Muzhi, Ekaterina Hertog, Kamila Kolpashnikova, and Man-Yee Kan. 2020. “Gender Inequalities: Changes in Income, Time Use and Well-Being Before and During the UK COVID-19 Lockdown.” SocArXiv. https://osf.io/preprints/socarxiv/u8ytcc/.

Author Biographies

**Yasmin A. Mertehikian** is a PhD candidate in Sociology and Demography at the University of Pennsylvania, where she also holds an MA in Sociology/Demography. Before coming to Penn, she did an MA in Social Sciences at Universidad Nacional de General Sarmiento-Instituto de Desarrollo Económico y Social and a BA in Sociology at Universidad de Buenos Aires, both in Argentina. Before coming to Penn, Mertehikian examined the experiences of young lesbian and heterosexual women with gynecological care services in Argentina. Already at Penn, in her master’s thesis, she studied the evolution of the fertility rate in Argentina between 1980 and 2010. In her dissertation, Mertehikian analyzes the impact of the COVID-19 pandemic on labor market outcomes in Argentina.

**Pilar Gonalons-Pons** is the Alber-Klingelhofer Presidential Assistant Professor in the Department of Sociology at the University of Pennsylvania. Her research examines how work, families, and public policies structure economic inequalities. Her current projects focus on developing a comprehensive understanding about the political economy of care and reproductive paid and unpaid work and its relationship to economic inequalities. A second important focus of her research is understanding gender culture and how it shapes family dynamics. Her scholarship has appeared in leading journals, including the *American Sociological Review, Demography, Socio-Economic Review, and Population Development and Review*. 