Job Mobility During the COVID-19 Pandemic: The Relationship with Motherhood Status

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ABSTRACT:

The economic effects of the COVID-19 pandemic have been noted as negative, but still not completely understood. This study examines how the pandemic has affected job mobility rates among mothers and non-mothers. Through two separate analyses it is found that mothers' job mobility did not increase at a higher rate than non-mothers during the COVID-19 pandemic. Plausible explanations are discussed, and further research is identified to help better understand these findings.

INTRODUCTION:

The term "Great Resignation" was famously predicted by Texas A&M professor, Anthony Klotz, in an interview with Bloomberg Businessweek (A. Miller, 2022). According to Klotz, the Great Resignation is the unprecedented rise in voluntary resignations in the United States throughout and in the aftermath of the COVID-19 pandemic (A. Miller, 2022). The Great Resignation began in the United States labor market in March of 2020 coinciding with the outbreak of COVID-19, and continued into 2022 with little agreement on the exact end date of this phenomenon in the United States labor market (Lacurci, 2022). This period is characterized by high inflation, high labor market slack, and high job mobility (Faccini et al., 2022). The primary cause of this adverse time in the labor market is the COVID-19 pandemic, which caused widespread job loss giving way to tight labor markets (Parker & Menasce Horowitz, 2022).

With unclear timelines defining exactly when the Great Resignation period begins and ends, this research focuses on the period between March 2020 and March 2022. With 4.5 million Americans leaving their jobs in November 2021 alone and the highest rates of job resignation the American labor market has seen in 20 years, this period marks a significant change in the United States economy and labor market (Parker & Menasce Horowitz, 2022). Job mobility is a key indicator of the health of the national labor market, and is identified as the key dependent variable in this research. The United States Bureau of Labor Statistics defines job mobility as simply the move from one job to another (Parkinson, 2017). In labor economics literature, this term is also commonly used to describe the movement from employed to unemployed status (Parkinson, 2017). This research defines "job mobility" as any movement from one job to another job or to unemployed status.

As research and labor market data have become increasingly available it seems the Great Resignation could be better described as the Great Reshuffling, with labor market participation rates returning to near pre-pandemic levels, with a 3.8% unemployment rate in March 2020 and 4.2% in Mach 2022 (Edwards et al., 2022). At its peak, the national unemployment rate reached 13% during the second quarter of 2020 (Edwards et al., 2022). While the economy overall does not appear to have returned to pre-pandemic employment rates in late 2022, the "June 2022 Monthly Labor Review", released by the Bureau of Labor Statistics, indicates that Americans are returning to work (Edwards et al., 2022). Overall, job mobility rates are an important aspect of the labor market to focus on as an indicator of the health of the national labor market and economy, and this research will focus on this indicator during the COVID-19 pandemic.

According to the Pew Research Center, surveyed Americans say the top reasons for leaving a job in 2021 included low pay, low opportunity for advancement, feeling disrespected at work, and an overall lack of childcare (Parker & Menasce Horowitz. 2022). One of these reasons is not like the other, however. Historically mothers take on the majority of the child care burden (Martucci, 2021). The national lack of childcare faced during the pandemic due to facility closures and safety precautions, the degree of which varied for different areas, may have disproportionately affected mothers' job mobility (Martucci, 2021). 3.5 million mothers with school-aged children exited the workforce just between March and April of 2020, with most of these mothers citing the lack of childcare as a primary reason for leaving work (Faccini,et al., 2022; Parker & Menasce Horowitz 2022).

Preliminary reports by the Bureau of Labor Statistics have shown that job mobility and labor force exit rates increased during the Great Reshuffling, but it is unclear what demographics demonstrated the highest labor force fluidity rates and if mothers left the workplace at higher

rates than non-mothers during this time (Edwards et al., 2022). This research asks the following question; From March 2020 to March 2022, did mothers' job mobility increase more than non-mothers? It is hypothesized that mothers' job mobility did increase more than non-mothers during this time.

This research is rooted in economics and sociology with a focus on labor markets. It analyzes comparative trends between mothers and non-mothers in the United States labor force during this historically significant period and compares them to pre-pandemic trends to determine if motherhood was a factor affecting job mobility among Americans during the COVID-19 pandemic. Using a difference in means analysis, a no significant increase in job mobility in mothers is found from March 2020 to March 2022 when compared to non-mothers. A linear regression analysis is also performed to determine other variables that may have affected this relationship before and during the pandemic. Educational attainment, and the number of children a female has are variables found to affect job mobility rates in women during the pandemic, that did not affect this relationship previously. Finally, further research is identified that can clarify to what degree these variables have affected this relationship and discuss further research that can be performed to better understand the effect the COVID-19 pandemic had on working mothers.

LITERATURE REVIEW

(I) Job Mobility During the COVID-19 Pandemic

According to a report released by the Bureau of Labor Statistics in June of 2022, the COVID-19 pandemic led to increased jobless rates beginning in March 2020 (Edwards et al., 2022). Starting in March 2020, this trend was seen for virtually every demographic, with job

mobility at a 20-year high in the United States (Edwards et al., 2022). In February of 2021, women's labor force participation rates reached a 20-year low at 57% (Ewing-Nelson & Tucker, 2021). Data from the Bureau of Labor Statistics has shown that 3.5 million mothers have left work just between March and April of 2021 (Parker and Menasce Horowitz 2022). As the school year started in August 2021 a majority of schools that inadvertently offer a version of childcare switched to all online classes with students learning from home and increasing uncertainty regarding childcare (Griffin 2022).

Griffin (2022) points out that the effects of the pandemic forced many childcare facilities to close their doors. Families were left with extremely limited outside-the-home childcare options and even highly educated, high-income families could not find reliable childcare (Griffin, 2022). With older children learning from home, and childcare facilities encountering a plethora of difficulties, the already delicate family-work balance was disrupted, with mothers taking on the majority of the complications (Martucci, 2021). In March 2021, the United States Census Bureau reported 10 million mothers with school-aged children were not working, which was an increase of 1.4 million compared to the same month of the previous year (US Census Bureau, 2021). Based on this information it is plausible that mothers' job mobility rates increased at the onset of the COVID-19 pandemic, with preliminary reports showing mothers are exiting the labor force at higher rates than in previous years (US Census Bureau, 2021).

(II) Women and Mothers in the Workforce

Women participating in the formal workforce is a relatively new aspect of the American workplace. Starting in the 1940's women began entering the formal workforce outside the home, as opposed to staying home and caring for children and family (Felmlee, 1984). From 1940 to the 1970's the rate of women in the formal workforce rose 26%, partially due to the new role

women took on in supporting economic growth during the World Wars (Felmlee, 1984). Felmlee, one of the most prominent researchers in the area of women in the labor force, has found a direct correlation between fertility and a woman's participation in the labor market (Felmlee, 1984). While Bowen and Finegan (1969) found that the higher the education of a woman, the more likely she is to be a member of the formal labor force, Felmlee finds that even educated women have been found to leave the workforce after childbirth, but at a lower rate than their less educated counterparts (Bowen & Finegan 1969; Felmlee, 1984). In addition, the age of the children in the household matters with preschool-aged children having the largest impact on mothers' labor force participation historically (Bowen & Finegan 1969; Felmlee, 1984). The research, however, was performed in the 1980s with a focus on white women and as time has progressed we have continued to see increased rates of educated women and increased female labor force participation rates along with it (Felmlee, 1984).

More recent research in 2000 has reinforced the findings of Felmlee with a nationally representative sample of women. Hofferth and Collins (2000) find that children significantly impact the labor-force participation of mothers (Hofferth & Collins, 2000). The top reason for mothers exiting the workforce in this study are found to be not having access to, or not wanting to utilize, outside the home childcare (Hofferth & Collins, 2000). Not having access to affordable child care is found to be the largest driver for low-income mothers' exiting the labor force (Hofferth & Collins, 2000). As found by Desai and Waite (1991), women most commonly exit the labor force after childbirth to care for children, but the rate of labor force exit is lower for educated women who earn higher incomes (Desai & Waite, 1991). This is at least partially due to the opportunity cost of leaving the workforce (Looze, 2017). While it is more cost-effective for low-income, less-educated women to leave the workforce as opposed to paying for childcare, it

is more cost-effective for women with higher education and higher-paying jobs to continue

working and pay for childcare instead (Looze, 2017).

As Budig points out in 2003 research, the negative relationship between fertility and

labor force participation is well documented (Budig, 2003). Budig researched the primary reason

for women exiting the labor force (Budig, 2003). This research finds that females most often

leave the labor force for voluntary reasons such as their partner simply earning more income and,

in turn, not requiring the female to participate in the labor force (Budig, 2003). Cases of women

leaving the labor force involuntarily are common (Budig, 2003). In these cases, the women left

the workforce involuntarily due to unplanned pregnancy or an overall lack of childcare, with

younger children having a higher impact on mothers exiting the labor force *(Budig, 2003)*. Since

males are more likely to earn a higher income than their female counterparts, the decision for

many families comes down to the partner in a relationship who earns a lower income being better

suited to stay home and care for children (Hofferth & Collins, 2000). Gangl and Zeifle (2009)

find that the trend in women earning lower income than their male counterparts is driven by the

well-researched motherhood wage penalty, leading to a cycle of lower wages for women and the

decision for women to stay home for childcare (Gangl & Ziefle, 2009).

An abundance of previous research has shown that fertility and labor force participation

of women are strongly negatively correlated throughout time (Felmlee,1984; Budig, 2003;Gangl

& Ziefle, 2009; Looze, 2017). Less-educated and low-income women are more likely to

demonstrate higher job mobility after childbirth due to the opportunity cost of continuing to

work, with preschool or younger-aged children strengthening this relationship (Looze, 2017).

Based on preliminary reports, at least 3.5 million mothers left the workforce in the early months

of 2021, but it is unknown exactly what caused this, and if these mothers returned to work in the

coming months (Parker & Menasce Horowitz, 2022). With a national lack of childcare being a trend throughout the COVID-19 pandemic, research to determine if job mobility increased for mothers as compared to non-mothers throughout the period of March 2020 to March 2022 is not well developed (Martucci, 2021).

METHODOLOGY:

Variables:

To determine if the rates of job mobility between mothers and non-mothers changed during the COVID-19 pandemic compared to the years leading up to the pandemic, data collected by the United States Bureau of Labor Statistics (BLS) was analyzed. The BLS performs a monthly survey called the Current Population Survey (CPS), which is used as official government statistics to estimate the current economic status and activities of the population of the U.S (US Bureau of Labor Statistics, 2021). One potential issue affecting the validity of this is the complications the BLS experienced during the COVID-19 pandemic. Although the BLS was still able to collect large amounts of data during this time, in-person data collection was suspended and multiple CPS data collection facilities began using the from-home-model (*IPUMS CPS*, n.d.). Data collected for 2 years prior to the COVID-19 pandemic (March 2018 - February 2020) is compared to data from the 2 years during (March 2020 - March 2022). This before and during model establishes a pre-pandemic baseline for comparison.

Those in, or previously in, the labor force are the only population able to demonstrate job mobility, therefore women in the labor force of the United States between March 2018 and March 2022 is the population of the research to determine if job mobility changed between mothers and non-mothers during the COVID-19 pandemic. The dependent variable of this

research is job mobility. Job mobility in this analysis is defined as a female's change in employment. This change includes changes in employer and a changes in employment status. This variable is not able to describe why women have moved or left jobs. Because there is no way of determining why a respondent moved jobs, this movement can not be denoted positive or negative. Some women could have left their job for better opportunities. Others may have left involuntarily due to other circumstances they faced during the COVID-19 pandemic. Further research is needed to establish the positive or negative causes and effects of the job mobility females experienced during the COVID-19 pandemic. A difference in means analysis, however, is able to determine if there was a difference in the job mobility of mothers during the COVID-19 pandemic, and regression models are able to identify other factors that may have affected the job mobility of women.

In the analysis job mobility is measured using the variable "EMPSAME" from the Current Population Survey. This survey question asks if a respondent is employed by the same employer and performing the same job they reported as working in the previous month. If the respondent answered "no", they did not demonstrate job mobility. If the respondent answers "yes" they did demonstrate job mobility. Due to the nature of this variable, about half of all observations were excluded from the analysis because of "Not in Universe" observations. This decision was made to ensure the variable accurately calculates job mobility in the analysis'. Fortunately CPS collects a large data set and over 1 million observations were still included in the analysis. This data is measured on the individual level, and the observations are aggregated to determine the job mobility of mothers and non-mothers. In the simple difference in means analysis, the mean of the job mobility found for mothers with children under the age of 18 and 6, and these means are compared to the mean of the job mobility variable of non-mothers.

The main independent variable of this research is motherhood status, with options including mother and non-mother. Two separate analyses were performed with different variables based on the age of the child. In the first analysis, motherhood is defined as females with children under the age of 18 living in the household. In the second, motherhood is defined as females with children under the age of 6 in the household. Mothers with children under the age of 6 is a subset of mothers with children under the age of 18, therefore mothers with children under the age of 6 are included in mothers with children under the age of 18. Non-mothers are defined as females with no children under the age of 18 in the household. The aim of two separate analyses is to identify if younger children lead to a stronger correlation in job mobility, as seen in previous research (Budig, 2003). In the difference in means analysis motherhood status and job mobility are the only variables accounted for.

In analyzing the relationship between mother's and non-mother's job mobility before and during the COVID-19 pandemic two linear regressions are created. One regression is created using data collected before the pandemic, and another is created using data collected during. The control variables included the linear regressions are age, race, family income, and educational attainment, marital status, and number of children. Age variable indicates the age of the respondent and only individuals aged 16-64 were included in the analysis to account for the ages used by the Bureau of Labor Statistics to define the labor force (*Concepts and Definitions (CPS)*, 2021). Race is described as the race of the respondent. Although the CPS now accounts for many more races, the data was cleaned to simplify the data into 5 categories. Family income is a variable indicating the family income of the respondent. Family income level was split into 6 categories. Educational attainment indicates the highest level of education completed by the female respondent and is also split into 6 categories. Finally, marital status was included in this

analysis nominally with individuals being married, divorced, separated, and never

married/single. The variables included in both analysis' and their operationalizations are

summarized in the table below:

Variable:	Description	Operationalization:
Motherhood Status (Independent)	This is a binary variable based on the age of the youngest child residing in the respondent's home.	**Analysis 1:** 1= Females with children under 18 years 0 = Females without children under 18 years **Analysis 2:** 1 = Females with children under 6 years 0 = Females without children under 6 years
Job Mobility (Dependent)	Question: Are you employed by the same employer and performing the same job you reported working in the previous month? This is a binary variable based on the individual's response to the question above.	0 = Yes 1 = No
Age (Control)	Age of the respondent at last birthday. *Only ages 16-64 were included in the analysis.	Continuous variable
Race (Control)	This is a nominal variable based on the race of the respondent.	1 = White 2 = Black 3 = American Indian 4 = Asian 5 = Other *1 = comparison group
Family Income (Control)	This is an ordinal variable based on the annual family income, in categories, of all persons related to the head of household.	1 = Less than $25,000 2 = $25,000 - $49,999 3 = $50,000 - $74,999 4 = $75,000 - $99,999 5 = $100,000 - $149,999

		6 = \$150,000+
		*1 = comparison group
Educational Attainment (Control)	This is an ordinal variable based on the respondents' educational attainment, as measured by the highest degree completed.	1 = High school or equivalent 2 = Associate or trade degree 3 = Bachelor's degree 4 = Master's degree 6 = Professional or doctorate degree *1 = comparison group
Marital Status (Control)	This is a nominal variable based on the respondent's current marital status.	1 = Married 2 = Separated/Divorced 3 = Widowed 4 = Never Married/Single *1=comparison group
Number of Children (Control)	Counts the number of own children (of any age or marital status) residing with each individual. *Includes step-children and adopted children as well as biological children.	Continuous Variable

Source: IPUMS CPS (ipums.org)

Design:

First, a simple difference in means analysis was employed to determine if there is significant difference in job mobility between mothers and non-mothers. The difference in means methodology is best used in research where a causal inference when a major event is predicted to be the cause of a change in rates between two groups (Kao, 2007). This design is used for this research because it is predicted that the major event of COVID-19 has caused a change in job

mobility rates between mothers and non-mothers. Since the difference in means method of analysis is not able to evaluate the effect of control variables in the relationship between the dependent and independent variable, a second method of analysis is employed to evaluate this relationship.

The time periods of pre-pandemic (March 2018-February 2022) and pandemic (March 2020-March 2022) are split in the dataset and evaluated using simple regression models. This second method of analysis allows for the evaluation of control variables in the analysis in the two separate time periods. This methodology allows for identification of variables other than motherhood that affected job mobility during the pandemic more than the 2 years prior. In both analyses the weights for each respondent based on the proportion of the population are used to ensure the results reflect the characteristics of the entire population. Although a single difference in difference analysis may seem more appropriate for this research, with the data available, this method of analysis is inaccurate because it is impossible to control for treatment between the two groups with the data available. This is because the CPS dataset does account for when a woman became a mother, and only measures if they are a mother when surveyed.

HYPOTHESIS:

The primary hypothesis in this study is that mothers demonstrated higher labor force fluidity rates during the COVID-19 pandemic than the two years prior. Using two different definitions of motherhood allows the analysis to determine if there was a stronger relationship in labor force fluidity for mothers with children under the age of 6 as opposed to mothers with children under the age of 18 when compared to non-mothers. Previous research has shown that mothers with children under the age of 6 are more likely than mothers with children under the

age of 18 to demonstrate labor force fluidity (Budig, 2003). It is secondarily hypothesized that there is a statistically stronger relationship between job mobility and motherhood in mothers with children under the age of 6 when compared to mothers of children under 18 during the COVID-19 pandemic.

| H1:	Mothers demonstrated higher labor force fluidity rates during the COVID-19 pandemic than the 2 years prior.
H2:	There is a statistically stronger relationship between job mobility and motherhood in mothers with children under the age of 6 compared to mothers of children under 18 during the COVID-19 pandemic.

ANALYSIS RESULTS:

Difference in Means Results:

While the difference in job mobility between mothers of children younger than 18 and 6 were lower than non-mothers for the 2 years leading up to the pandemic, this difference between mother's and non-mother's job mobility became smaller during the COVID-19 pandemic. Mothers of children under the age of 18 demonstrated an average job mobility of 2.10% prior to the pandemic and a rate of 2.18% during. In the 2 years prior to the onset of the COVID-19 pandemic, mothers of children under the age of 6 demonstrated an average job mobility of 2.24% and a rate of 2.31% during. Non-mothers showed a labor force fluidity rate average of 2.28% before the pandemic and 2.38% during the pandemic. This showed an increase in rates of job mobility of 0.07 percentage points for mothers of children under the age of 6 during the pandemic, and an increase in rates of 0.08 percentage points for mothers of children under the age of 18. Non-mothers' labor force fluidity rates increased by 0.10 percentage points during the pandemic, which is a larger increase than seen in mothers with children under the age of 6 and 18. This is summarized in the table below.

Average Job Mobility

	Before COVID-19 (3/2018 - 2/2020)	During COVID-19 (3/2020 - 3/2022)	Percentage Point Change
All Women	2.22%	2.31%	+0.09
Non-Mothers	2.28%	2.38%	+0.10
Women with children < 18 years old	2.10%	2.18%	+0.08
Women with children < 6 years old	2.24%	2.31%	+0.07

As seen in the table above, the highest difference in job mobility before and during the COVID-19 pandemic is seen in non-mothers. Mothers with children under the age of 6 show the smallest increase in job mobility pre and during the pandemic than all other categories, including all women together.
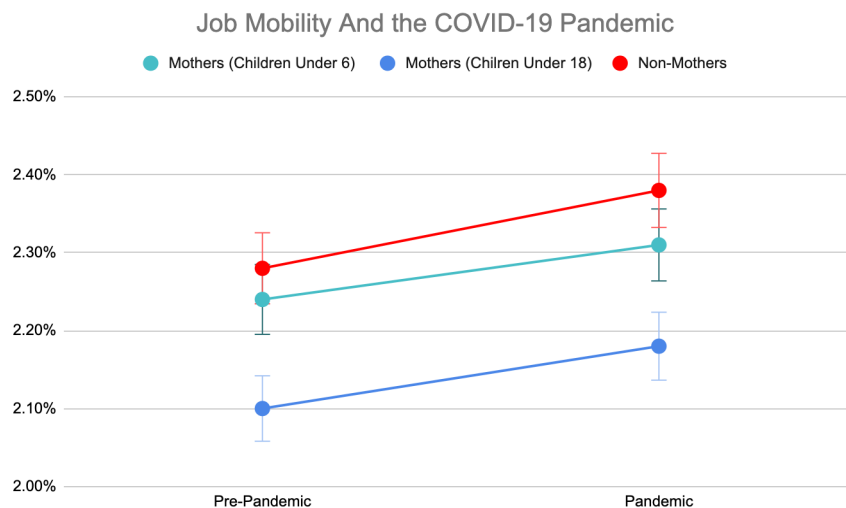
In this data visualization, the increase in job mobility for all groups included in the analysis is seen. The difference in means analysis indicates that non-mother's job mobility was more affected during the COVID-19 pandemic than mothers, and the increase in job mobility roughly the same between mothers with children under the age of 18 and mothers with children under the

age of 6. This difference in means analysis, however, does not account for other variables that may affect this relationship such as race or family income. To further evaluate the relationship that other explanatory variables had with the job mobility of women, another analysis must be performed.

Regression Analysis Results:

Two regressions to further evaluate the relationship age, race, family income, educational attainment, marital status, and the number of children of the women had on the independent variable of job mobility before and during the COVID-19 pandemic. Motherhood status is the main dependent variable of these regressions, however, the control variables of the regression are also included as dependent variables. The results of these regressions are summarized in the table below:

Regression Results

	Pre-Pandemic (March 20202 - February 2022)	Pandemic (March 2020 - March 2022)
	Coefficent (Standard Error)	Coefficent (Standard Error)
Motherhood Status Children < 18 (Dependent)	-0.0026** (0.0021)	-0.0034** (0.0010)
Motherhood Status Children < 6 (Dependent)	-0.0025* (0.0011)	-0.0025* (0.0011)
Age (Control)	-0.0005*** (0.0001)	-0.0005*** (0.0001)
Race (Control)		
Black	0.0008 (0.0009)	0.0015 (0.0011)
American Indian	-0.0026 (0.0028)	0.0008 (0.0035)
Asian	-0.0007 (0.0012)	-0.0003 (0.0012)
Other	0.0010 (0.0021)	0.0010 (0.0022)
Family Income (Control)		
$25,000 - $49,999	-0.0072*** (0.0013)	-0.0084*** (0.0017)
$50,000 - $74,999	-0.0108*** (0.0013)	-0.0122*** (0.0017)
$75,000 - $99,999	-0.0111*** (0.0014)	-0.0145*** (0.0017)
$100,000 - $149,999	-0.0117*** (0.0013)	-0.0155*** (0.0017)
$150,000+	-0.0104*** (0.0014)	-0.0148*** (0.0017)
Educational Attainment (Control)		
High school or equivalent	0.0030* (0.0013)	-0.0023 (0.0017)
Associate or trade degree	0.0010 (0.0014)	-0.0036 (0.0019)
Bachelor's degree	0.0004 (0.0014)	-0.0058. (0.0017)
Master's degree	0.0004 (0.0015)	-0.0071*** (0.0018)
Professional or doctorate degree	0.0004 (0.0018)	-0.0076*** (0.0021)
Marital Status (Control)		
Separated/ Divorced	3.881e-03*** (0.0008)	0.0027** (0.0009)
Widowed	2.816e-03 (0.0018)	0.0006 (0.0021)
Never Married/ Single	3.956e-03*** (0.0008)	0.0016. (0.0009)
Number of Children (Control)	0.0005 (0.0004)	0.0009* (0.0004)

Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1, White (Race), Less than $25,000 (Family Income), Less than high school (Educational Attainment), Married (Marital Status), are reference categories.

As seen in the regression results, motherhood status for both mothers with children under the age of 18 and 6 negatively impacted the job mobility of women. This means that mothers were actually less likely than non-mothers to move jobs or move to unemployed status both before and during the pandemic. The significance level, however, for both motherhood statuses decreased during the pandemic when compared to before. In both periods evaluated, as age increased the likelihood of moving jobs decreased significantly. In addition, higher family income was negatively correlated with job mobility both before and during the pandemic at similar rates, with higher income levels showing decreased job mobility when compared to females with a family income of less than $25,000. The same is true for marital status both before and during the pandemic with separated, divorced, and single females having an increased chance of job mobility before and during the pandemic when compared to married females. Widow status, however, did not impact the job mobility rates of females for both periods when compared to married females. While the impact these variables had on job mobility stayed relatively the same during the pandemic, the other control variables' relationship with job mobility changed.

Before the start of the pandemic, educational attainment showed no significant relationship with the job mobility of women, with the exception of high school or equivalent education having a slightly positive relationship when compared to less than high school or equivalent educational attainment. During the COVID-19 pandemic, however, women with a Master's degree or above showed lower job mobility when compared to those with less than high school or equivalent education. Although the difference was not statistically significant in the two years before the pandemic, higher education was associated with more movement during this time, and this relationship became negatively correlated during the pandemic. Finally, the number of children of females did not have a significant correlation with job mobility in the two

years prior to the COVID-19 pandemic, but this relationship became positively correlated during the pandemic, meaning that as the number of children a female increased, the likelihood of job mobility also increased.

DISCUSSION:

The results of the difference in means analysis show that non-mothers were moving jobs more than mothers before and during the COVID-19 pandemic. While research by Budig (2003) and others has shown that a woman's fertility is positively correlated with job mobility, the analysis performed for this research did not find that mothers were more likely than their counterparts to move jobs (Felmlee, 1984; Looze, 2077). The results of both the difference in means analysis and the linear regression model reinforce this finding. All groups included in this analysis showed an increase in job mobility during the COVID-19 pandemic when compared to the two years prior, however, non-mothers showed a higher increase in job mobility than mothers of children under the age of 18 and 6. Mothers with children under the age of 18 showed a stronger negative correlation with job mobility, meaning that mothers with children under the age of 18 were less likely than mothers with children under the age of 6 to change jobs or move from employed to unemployed status. This finding is by previous research showing that mothers with younger children are more likely to move jobs or exit the labor force, both of which are accounted for in the job mobility variable used in the analysis, than mothers with older children (Budig, 2003).

Both motherhood statuses did not, however, show a higher increase in job mobility compared to non-mothers during the pandemic when compared to the two years prior, disproving the primary hypothesis that the job mobility of mothers would increase at a higher rate than

non-mothers during the pandemic when compared to the 2 years prior. This result is found in the difference in means analysis, and even with control variables accounted for, mothers did not show a higher increase in job mobility compared to non-mothers.

Interestingly, educational attainment did have a significantly larger negative correlation with job mobility during the pandemic, when compared to the two years prior. Although this is an unexpected finding, this finding is in accordance with the "June 2022 Monthly Labor Review" (Edwards et al., 2022). This publication by the Bureau of Labor Statistics reported that individuals in the service industry were one of the most laid-off or unemployed demographics in the United States Labor market during the COVID-19 pandemic (Edwards et al., 2022). This report also shows that individuals in the service industry are some of the lowest weekly paid workers in the country, therefore the results of the linear regression indicating that the lowest income groups' job mobility increased during the COVID-19 pandemic show are in accordance with this BLS report (Edwards et al., 2022).

      The linear regression models show the number of children a female has is statistically correlated with an increase in job mobility during the pandemic. This relationship was not statistically strong in the two before the COVID-19 pandemic suggesting that as the number of children a female has increased, the more likely they were to move jobs or exit the labor force during the pandemic. While this relationship was predicted by Griffin (2022), this finding does show that there still may be more to explore regarding the relationship between motherhood, the number of children, and job mobility during the COVID-19 pandemic. Since the data used in the analysis for this research does not allow for a proper difference in difference analysis to show that motherhood directly correlates with more job mobility in women, and the data does not provide a reason as to why women may have moved jobs or exited the labor force during the

COVID-19 pandemic, more research is required to find if motherhood caused an increase in job mobility in women. The results of this analysis do, however, show that as the number of children a female has increased, so did women's job mobility.

IMPLICATIONS:

The findings of both the difference in means analysis and linear regression analysis show that mothers did not show a higher increase in job mobility during the COVID-19 pandemic than non-mothers. This finding is counterintuitive, especially after reading several reports of mothers being forced to move jobs or exit the labor force altogether during the COVID-19 pandemic (Parker & Menasce Horowitz, 2022; Martucci, 2021). In early 2021, this seemed to be the case with 3.5 million mothers exiting the labor force early in the pandemic. The analysis performed in this research, however, does not paint the same picture with mothers' job mobility increasing less than non-mothers during the pandemic when compared to the two years prior. In early May of 2022, the New York Times released an article stating that mothers actually remained in the labor force during the COVID-19 pandemic due to necessity, and took on the additional household burden in their personal lives (C. Miller, 2022). Miller (2022) claims that staying home to care for children and family is no longer an option for many American mothers, who are increasingly becoming the breadwinners of the family.

Based on the results of the research performed in this study, the theory that many mothers did not have the option to stay home and care for children during the pandemic appears plausible. It is possible that many mothers did exit the labor force to care for loved ones, and this labor force exit sparked a media frenzy around the idea of mothers moving jobs or exiting the labor force (Parker & Menasce Horowitz, 2022; Martucci, 2021). Mothers that could not afford

to exit the labor force, however, may have been left out of consideration early into the COVID-19 pandemic. It is possible these two contrasting storylines ended up washing each other out in the analysis performed in this research, still leaving a big question: How did the national lack of childcare affect mothers professionally during the COVID-19 pandemic? While C. Miller (2022) has begun asking this question, it has yet to be answered.

More extensive research is required to answer this question and requires a different form of data than what was used in this research. Just looking at the statistics on job mobility of mothers compared to non-mothers is not enough to determine how working mothers were affected by the COVID-19 pandemic, and further analysis would require more detailed information about specific experiences. The national lack of childcare experienced during the pandemic, and how mothers balanced this delicate balance is still cause for further research (Martucci, 2021). Although a larger increase in job mobility for non-mothers was observed during the COVID-19 pandemic when compared to the 2 years prior, an increase in job mobility was also observed in mothers. In addition, the number of children a female has was positively correlated with job mobility during the pandemic, but not in the two years prior. During the pandemic, it became difficult for schools and childcare facilities alike to continue normal operations while ensuring the safety of children and their families (Martucci, 2021).

To propose policy options we must look at how the COVID-19 pandemic affected working mothers, and how policy can be created to assist working mothers with multiple children. An unpublished paper by the National Bureau of Economic Research proposes policy options that could be used to support working mothers during adverse times such as the period of the COVID-19 pandemic (Alon et al., 2020). The economic research proposes that more government resources be allocated to mothers specifically to assist with childcare (Alon et al.,

2020). One creative approach to assisting mothers during the COVID-19 pandemic that was highlighted was a policy that allowed for additional paid time off to mothers who care for their children at home (Alon et al., 2020). This could allow both mothers who left the labor force and those who continued working while balancing responsibilities to keep their employment status while ensuring their children are adequately cared for. These solutions could run into issues in the real market, however, because this policy could inadvertently increase employers' reluctance to hire females knowing they are required to provide additional PTO for their female employees.

CONCLUSION:

Based on previous research, it has been found that women demonstrate job mobility for a multitude of reasons including simply not needing to work, however at least some mothers remained in the labor force during the pandemic while still caring for children at home (Parker & Menasce Horowitz, 2022). At the onset of the COVID-19 pandemic the United States labor market experienced a large change (Edwards et al., 2022). More specifically the unemployment rate increased, and labor markets suffered from a reduction in those participating in the labor force (Edwards et al., 2022). The COVID-19 pandemic also caused childcare facilities to close their doors and K-12 education systems to begin a learn-from-home format (Griffin, 2022).

While the original hypothesis set out in this research claimed mothers would show a higher increase in job mobility than non-mothers during the COVID-19 pandemic, the results of both the difference in means and linear regression analyses performed show this was not exactly the case, and the exact opposite may actually be true. More recent news articles have begun discussing the possibility that many mothers did not have the choice to move jobs or exit the labor force during the COVID-19 pandemic (C. Miller, 2022).

To solidify these findings, however, more research should be performed to determine exactly how mothers were affected during the COVID-19 pandemic In addition, confounding variables that did have a strong relationship with job mobility in women were educational attainment the number of children a woman has. Although it is clear these variables affect the relationship between motherhood and job mobility, this research was only able to hypothesize the reasons for this relationship, and reasons that other variables did have a strong relationship with job mobility. The analyses performed in this research were not able to identify a difference in the relationship of motherhood status and job mobility before and during the COVID-19 pandemic when compared to non-mothers, however it was able to explore possible reasons for this, and identify further research that can help to better understand affect the COVID-19 had on working mothers.

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