A hero at home, but losing the zeros at work? : how length of maternity leave effects women's income

Dhanisha Nandigama

University at Albany, State University of New York, dnandigama4@gmail.com

The University at Albany community has made this article openly available. Please share how this access benefits you.

Follow this and additional works at: https://scholarsarchive.library.albany.edu/legacy-etd

Part of the Psychology Commons

Recommended Citation


This Master's Thesis is brought to you for free and open access by the The Graduate School at Scholars Archive. It has been accepted for inclusion in Legacy Theses & Dissertations (2009 - 2024) by an authorized administrator of Scholars Archive. Please see Terms of Use. For more information, please contact scholarsarchive@albany.edu.
A Hero at Home, but Losing the Zeros at Work? How Length of Maternity Leave Effects Women’s Income

by

Dhanisha Nandigama

A Thesis

Submitted to the University at Albany, State University of New York

in Partial Fulfillment of the

Requirements for the Degree of

Master of Arts

College of Arts & Sciences

Department of Psychology

May 2021
ABSTRACT

An increasing number of mothers are involved in the workforce and often take maternity leave. Women taking maternity leave experience various career implications. Importantly, leave length can impact the nature of these career outcomes. In this study, I explore the relationship between length of maternity leave and one key career outcome: income. Drawing from social role theories, I investigated whether longer parental leave is related to less positive career outcomes, such as income across women over time and if there is a curvilinear relationship between length of maternity leave and women’s income, such that the relationship between length of leave and income is more positive with shorter leaves compared to no leave but becomes less positive as length of leave increases. The sample involved participants from the National Longitudinal Survey of Youth 97 (NLSY97) conducted in the U.S. Results indicated no significant linear or curvilinear relationship between leave length and income. These findings have implications for organizations and policy makers who work towards improving the quality of parental leave policies. More broadly, this research provides perspectives on the salary trajectory for mothers taking maternity leave and offers insight on greater societal implications for women.

*Keywords*: Parental leave, maternity leave, income, career outcomes
ACKNOWLEDGEMENTS

I would first like to thank my advisor Dr. Ho Kwan Cheung for believing in me, guiding, and supporting me throughout graduate school and through this process. Having a friend in your mentor is a blessing.

Thank you to my committee member, Dr. Jason Randall, who was my first mentor in the field. He taught me the ABCs of I-O psychology. I am incredibly grateful for his guidance.

Thanks to Steve McCluskie from National Longitudinal Survey of Youth 1997 for his support with using the database. His time and patience were valuable.

I am also thankful to my cohort and Class of 2021 as well as the senior PhD students. The way we connected, encouraged, and motivated each other was inspiring. I am grateful for the support system.

All of this would only be possible with the blessings of God, my parents, family friends, and mentors over the years. Thank you for being there to celebrate my achievements and to motivate me at each phase to reach higher.
TABLE OF CONTENTS

ABSTRACT.................................................................................................................. ii

ACKNOWLEDGMENTS.................................................................................................. iii

TABLE OF CONTENTS................................................................................................ iv

Introduction.................................................................................................................... 1

Current Research.......................................................................................................... 2

Parental Leave Policies in Western Countries............................................................. 3

Ideal Worker Norm........................................................................................................ 4

Social Role Theory......................................................................................................... 5

Methods......................................................................................................................... 11

Results......................................................................................................................... 14

Discussion..................................................................................................................... 17

Future Directions......................................................................................................... 20

Conclusion.................................................................................................................... 21

References..................................................................................................................... 22

Appendix....................................................................................................................... 30
Introduction

Parental leave, also referred to as a leave of absence, career break or interruption due to parental reasons, is defined as the benefits received by parents to engage in childcare in the early post-natal period (Ferrarini, 2003). The prospect of a company employing a parent is generally high in Western countries, like the U.S., where in 2016 roughly 32.7% of the civilian labor force were parents (G&A Partners, 2017). Typically, more women than men take parental leave (Klerman et al., 2013). Maternity leave is defined as the prerogative to resume work at a pre-birth job post a designated duration of time, established by labor standard legislation (Baker & Milligan, 2008). Parental leave policies, including maternity leave help establish equal division of childcare responsibilities (Fried, 1998), and is imperative in helping establish work-life balance (Thomas & Ganster, 1995).

Despite its importance, parental leave may be related to career penalties due to the ideal worker norm, which posits that the ideal worker is one who works full time with no child caring responsibilities (Williams, 2001). Leave taken by mothers can be perceived as time away from work, casting in a “flexibility stigma” (Rudman & Mescher, 2013; Williams, 2001). Likewise, social role theory proports that gender stereotypes develop from divisions of labor between genders in society, and people are associated with traits that are necessary to perform those gendered social roles (Eagly, 1987). Thus, mothers are stigmatized for taking leave because they are performing something that is feminine, which is not rewarded in the workplace. While existing theories suggest that mothers suffer negative consequences for taking leave, empirical evidence are a little more mixed. Parental leave is related to lower salary increments and promotions (Judiesch & Lyness, 1999), though there are no changes to reward recommendations for high-performing employees (Allen et al., 1994). Moreover, there is theoretical ambiguity
with regards to the direction in which maternity leave policies impact women’s wages (Blau & Ehrenberg, 1997).

A possible explanation for inconsistencies in the literature on the relationship between parental leave and career outcomes, is that few studies account for length of leave as a non-dichotomous variable. The few studies that have taken leave into account were either conducted experimentally (Hideg et al., 2018; Krstic, 2019) or did not distinguish among leave for different reasons (Judiesch & Lyness, 1999). In other words, due to inconsistencies in literature, there is a need to examine length of parental leave in relation to career outcomes. Accordingly, the purpose of this study is to examine the effect of length of parental leave, specifically maternity leave on career outcomes using a nationally representative data set. I expect, over time, longer maternity leave is related to less positive career outcomes, such as income, across women.

**Current research**

The current study makes four main contributions. First, this study will extend the literature on the relationship between parental leave, specifically maternity leave and career outcomes, such as income, by accounting for length of leave as a continuous variable. The small body of literature measuring length of parental leave, offers limited understating of the phenomenon, thus there is a necessity to bridge the gap in this literature. Second, I use the National Longitudinal Survey of Youth 97 (NLSY97) data set, which consists of employed women taking maternity leave. The use of a nationally representative, longitudinal data set allows me to observe within-person changes over a duration of time. Penultimately, using a nationally representative data set offers more external validity compared to laboratory or field studies, which could be limited to groups used in the study, often decreasing generalizability.
Finally, this study offers critical insight on women’s career outcomes, such as income, due to parental leave, for organizations and governments implementing leave policies.

**Parental leave policies in Western countries**

Drawing from Western countries which offer different leave policies, we can provide a greater perspective on the length and overarching societal implications on leave. Currently, the length of legally protected leave ranges from around a month to over a year in some countries. For instance, in the U.S., legal parents are eligible to take up to 12 weeks of unpaid parental leave (Brainerd, 2017), Australia offers 18 weeks of paid parental leave for primary caregivers considering some eligibility criteria (Australian Government Services Australia, 2021), while in Canada shared maternity and parental leaves of up to 86 weeks (Baxter, 2018) are offered. In contrast to countries with more conservative leave policies like the U.S, in European countries such as Sweden, parents together receive over a year of compensated parental leave per child and the use of the leave is flexible until the child turns eight years old (Pylkkänen & Smith, 2003). Denmark is like Sweden in its welfare state ideology and culture (Pylkkänen & Smith, 2003); however, the country offers slightly less liberal leave policies compared to Sweden, in that parents can take 52 weeks of paid parental leave (European Commission, 2020). Overall, it is apparent some Western countries offer more liberal leave policies than others.

Despite the liberality in parental leave policies in Western countries, parental leave may still impact careers, and specifically the length of leave may be an important factor for career outcomes. Because men and women take parental leave differently (Duvander et al., 2010), leave length may be a crucial factor in explaining career outcomes across women. For instance, mothers taking 12 weeks versus 16 months of leave, would likely result in different career outcomes, due to the extended duration of time away from work. Thus, leave length is an
important element in this phenomenon. Prior to discussing the discrepancies in literature on parental leave on career outcomes in relation to leave length, I provide a theoretical framework on gender norms and traditional roles of men and women.

**Ideal worker norm**

The effects of parental leave on parents’ career outcomes can be explained by the ideal worker norm and social role theory. The “ideal worker” is a person completely committed to work, working full time and willing to move for the job if necessary (Williams, 2001). In other words, people whose work commitments are above anything else, such as personal needs (Kreiner et al., 2006) are characterized in the ideal worker image, in that the worker is always available to complete work with full devotion (Acker, 1990). With no family obligations in place, to focus solely on work, the ideal worker, is likely contrary to the expectations of ideal motherhood (Hebl et al., 2007) or parenthood in general. Employees work through organizational pressures to obtain an image akin to the ideal worker image, and in that process, some may drift away from obtaining the image, either showing departure from following accepted standards or appearing as though the identity has been embraced (Reid, 2015).

Moreover, the theory explains why parents often incur career drawbacks due to leave. For instance, abiding by the ideal worker norm, results in flexibility stigma, in which workers who require flexibility in work schedules due to personal requirements are devalued, negatively affecting work-life balance in employees (Cech & Blair-Loy, 2014; William, 2001). Rudman and Mescher (2013) showed family requirements are perceived as a disruption from work, often leading to employees experiencing flexibility stigma at their workplace post family leave. A result of the flexibility stigma is major career disadvantages due to leave, and often the degree to which flexibility stigma effects employees is dependent on low-income versus high-income
workers, with low-income workers experiencing greater flexibility stigma (Williams et al., 2013). There is a domino effect in that when employees are perceived as less committed, they are less likely to be recommended for organizational rewards compared to those who are perceived as more committed (Allen et al., 1994), likely influencing earnings long term. Moreover, family status about an employee provides information to employers about promotions and career commitment, which is used in making decisions for rewards (Kirchmeyer, 2006).

Social role theory

The social role theory and the ideal worker norm are complementary theoretical frameworks. The social role theory proports gender stereotypes result from historical labor distribution between men and women (Eagly, 1987). Eagly and colleagues (2000) describe men and women are distinguished by different societal roles, such that men are prescribed the breadwinner roles while women are prescribed the homemakers roles. To successfully perform gender roles, women traditionally are socialized to be communal and nurturing, while men are socialized to be assertive and independent. As a result, the caregiving roles is viewed as feminine while the worker role is viewed as masculine.

An extension of the social role theory is the role congruity theory, which explains the alignment and congruity of the qualities required by the role and qualities society perceives the person to have (Eagly & Diekman, 2005). When there is misalignment or incongruity between gender roles and roles society prescribes as appropriate, individuals experience consequences. For instance, the theory explains the prejudice towards women, due to incongruity between society’s accepted attributes of a strong leader, and the typical gender roles of women (Eagly & Karau, 2002). Thus, embracing motherhood can hamper career progress for women, and gender stereotypes plays a role in this career burden (Heilman & Okimoto, 2008). Because women are
traditionally seen as the nurturer and caretaker for children, working mothers are perceived as less communal than non-employed mothers (Bridges & Orza, 1992). Due to the way gender bias effects work settings, competent women may not necessarily advance in the work environment the same way as their male counterparts (Heilman, 2001). Altogether, these theoretical frameworks suggest that traditional working roles are characterized with masculine characteristics, and because women, especially mothers are not seen as having those necessary characteristics to succeed, they are often penalized. Not only are they penalized, but they are also stigmatized, because not conforming to traditional worker roles is characterized with having lower commitment, which is contrary to the ideal worker image.

Consistent with the ideal worker norm (Williams, 2001) and social role theory (Eagly, 1987), empirical evidence has found taking leave can contribute to lower salary in MBAs (Reitman & Schneer, 2005) and faculty stopping their tenure clock (Manchester et al., 2013). Yet, other studies suggest the opposite: women’s wages are not impacted by formal parental leave (Albrecht et al., 1999), leave does not impact career rewards in women (Allen & Russell, 1999), leave due to pregnancy has no effect on salary (Landau & Arthur, 1992), and mothers using job protected maternity leave (and resume work with the same employer post-childbirth) experience an increase in wages compared to mothers without leave coverage (Waldfogel, 1998). The empirical evidence is mixed regarding how leave in general effects men and women’s careers. This may be explained by fewer studies considering length of leave.

The few studies that have looked at length of leave as a continuous variable in relation to career outcomes across men and women have limitations. One of the seminal studies that examines the effects of length of leave, such as a study by Judiesch and Lyness (1999), sampled managers at an organization who took leave between 1990 to 1992 and examined career rewards
between 1993 to 1995. Leave was measured as zero to 18 months. They examined the relationship between taking leave and rewards and career success in managers and found fewer promotions and increases in salary were related to manager’s gender and leave irrespective of the cause, performance ratings showed no differences in rewards for those who did and did not take leave, and multiple compared to single leaves resulted in greater reward penalties. However, they did not draw any conclusions on the interaction between gender and leave due to family reasons, could not find gender differences in reward penalties, and established no relationship between length of leave and career rewards, showing inconsistencies with the human capital theory. This study is also older, and literature has evolved over time.

More recently researchers have taken an experimental paradigm and have performed a set of two studies. Hideg and colleagues (2018) studied agency intervention on longer legislated maternity leaves, by accounting for length of leave as either one-month (shorter) or one-year (longer) in a Canadian context and found the detrimental impacts of longer compared to shorter maternity leave on job commitment was mediated by people’s lowered perceptions of agency in women. However, this study did not differentiate whether leave length or leave being standard resulted in negative reactions to longer leave. Moreover, the study involved undergraduate students with limited work experience, and the leave length of one year used in this study may not be generalizable to countries offering less generous parental leave. This study provides corroborating evidence with Krstic (2019) who investigated the effects of paternity leave on career outcomes in men using Canadian samples, conducting a number of studies examining length of leave as one-month, six-months, and no paternity leave, and found through increased perceptions of communality in men, paternity leave may positively impact men’s careers. The study focused on paternity leave; however, it still provides valuable insight on the length of
leave. An issue with this study is the samples may have been more accepting of paternity leave due to Canada’s generous leave policies, where men are eligible to take up to 35 weeks of parental leave (Marshall, 2003), making this study less generalizable to individuals in other countries. In addition to the sample, the laboratory and field-based nature of the study is limited to the groups used in the study, likely limiting the generalizability of the study across populations. Altogether, the evidence suggests leave length is an important facet in explaining career outcomes.

Collectively, existing theories and overall general leave literature explains parental leave impacts career outcomes across women. However, literature is mixed, likely due to few studies accounting for leave length. Drawing from scant literature on length of leave as a non-dichotomous variable, and literature on the career consequences of parental leave, I expect increased career implications due to parental leave over time.

*Hypothesis 1:* Longer parental leave is related to less positive career outcomes, such as income over time.

Despite the possible consequences of women taking longer maternity leave, there may also be penalty in *not* taking leave. Women in the workplace may often find themselves in a catch-22 situation, where they are penalized for not aligning with worker roles, while also receiving backlash for not being feminine enough. A study by Morgenroth and Heilman (2017) examined how the decision to take or not to take maternity leave impacts women’s evaluation in the family and work domain. In this study, they found women who decided to take maternity leave were viewed as less competent and less deserving of rewards and were overall evaluated more negatively in the work domain. However, women who chose not to take maternity leave were viewed as “bad” parents and were evaluated negatively in the family domain. Perceptions
of competence regardless of the domain were only impaired, not enhanced by the decision to
take maternity leave. Deciding whether to take leave or not can ultimately have unintended
consequences which may interfere with a women’s attempts at managing work life and childcare
responsibilities (Morgenroth & Heilman, 2017). Gender stereotypes play an essential role in this
situation, in that women have an expectation to put family first. By putting family first, they may
not be taken as seriously at their workplace. Paradoxically, when they act contrary to societal
expectations, and decide not to take leave they are perceived as violating the traditional gender
norms, in turn making them appear as though they are bad mothers. Considering women still
bear a disproportionate level of childcare duties (Craig & Mullan, 2010), it appears there is a no-
win situation for women in the workplace in that they are often stuck choosing between family
and work.

Furthermore, in line with gender roles, differences in how manhood and womanhood are
conceptualized can be applied to leave. Career effects for men and women are different based on
leave. Compared to mothers, fathers are viewed as more employable (Kmec et al., 2014). Due to
the perception employees are perceived as disrupted from work for family reasons, they can
experience flexibility stigma at their workplace post parental leave (Rudman & Mescher, 2013;
Vandello et al., 2013). This flexibility stigma can apply to men and can cause career implications
such as negative effects on wages (Albrecht et al., 1999; Rege & Solli, 2013), which is
associated with more reward penalties, smaller salary increments and promotions (Judiesch &
Lyness, 1999). However, marriage and fatherhood can also prompt an income premium for men
and penalty for women (Glauber, 2007). I will further explore the career interruptions such as an
income penalty experienced by mothers.
Although men may experience some drawbacks in their careers due to parenthood, career outcomes due to maternity leave is more commonly investigated in the literature mainly because women are more inclined to take leave compared to men after childbirth. A study showed, managers perceive women have greater family-work conflict, which in turn effects their perception of women’s fit in the organization and therefore promotability (Hoobler et al., 2009). In a similar vein, Hideg et al. (2018), showed people’s lower perceptions of women’s agency underlies the unfavorable effects of longer maternity leave. Some adverse effects of the leave are income penalties for mothers, since post parental leave mothers may not resume with the same kind of occupation (Arun et al., 2004). Particularly, longer duration of leave results in significant decreases in relative wages for women (Ruhm, 1998), lowered chances of moving up in their job (Evertsson & Duvander, 2011) and penalties even for highly qualified women, advanced in their fields (Hideg et al., 2018). However, when examining full-time short paid parental leave, women experienced essentially no effect on wages and labor force participation (Joseph et al., 2013). However, from both a theoretical and empirical standpoint not taking leave at all can also result in penalization. By taking no leave women may be perceived as violating gender roles as caretakers. Historically, working mothers are viewed as less communal compared to stay-at-home moms, and conforming to female roles to a certain degree is essential for women to be perceived positively in the workplace (Bridges & Orza, 1992; Heilman & Okimoto, 2007). Consistent with these findings, shorter leaves may be the better alternative to reaffirm women’s femininity compared to no leave, while longer leaves can be detrimental to women’s career outcomes over time.

Overall, these studies suggest, taking parental leave, effects career outcomes differently for men and women. Typically, women are far likelier to take leave and longer leave compared
to men (Klerman et al., 2013). Thus, in this study I focus on leave taken by women, with the expectation that, increasing the length of leave, will further impact career outcomes, such as income, in women compared to shorter leaves. Building from this rationale, I propose:

**Hypothesis 2:** There is a curvilinear relationship between length of maternity leave and women’s income, such that the relationship between length of leave and income is more positive with shorter leaves compared to no leave but becomes less positive as length of leave increases.

*Figure 1. Relationship between length of leave and income*

*Figure 1.* This figure shows a graphical representation of the phenomenon, where the Y-axis represents income, and the X-axis represents the length of leave in days.

**Methods**

**Sample**

The National Longitudinal Survey of Youth 1997 (NLSY97) data was used to test my hypotheses. NLSY97 is a program of the U.S. Bureau of Labor Statistics and specifically the National Longitudinal Surveys (NLS) program (Bureau of Labor Statistics, U.S. Department of Labor, 2019). Participants in the initial survey were 51.9% non-Black/non-Hispanic. My final sample taken from the years 2002 through 2011 (large amount of missing data prior to 2002) included 455 employed women (*M*$_{age\ at\ 1997} = 15.3$ years, *M*$_{number\ of\ leaves} = 0.41$, *M*$_{length\ of\ leaves} = 54.1$ days). Respondents were selected in two phases, where phase 1 included the selection of households for screening and phase 2 included the identification of eligible respondents. A
household was defined as an individual room or group of multiple rooms serving as living quarters for an individual person, group of unrelated individuals or a family. In phase 1, housing units were selected by first selecting non-overlapping primary sampling units (PSUs) which were chosen from the National Opinion Research Center’s 1990 master probability sample. From there, some sample segments were chosen from the PSUs and a subset of households were further selected from all the available housing units in the sample segments. In phase 2, screening interviews were conducted in some housing units, and a subset of members from those households were deemed eligible for participation. Participants in round 1 came from a larger pool of eligible participants and were considered the cohort members of NLSY97. A sampling procedure was also established for individuals temporarily absent from the household.

Procedure

The NLSY97 survey captured information on employment, income, education, household information and other areas influenced by labor market behavior. Round one of data collection via interviews began in 1997, followed by subsequent interviews conducted biennially until 2011. I have incorporated data from the years 2002 through 2011. Each round of interviews was conducted using a CAPI (computer-assisted personal interview) instrument which was administered by the interviewer. The computer software enabled interviewers to select questions based on the respondent’s responses to the questions. Due to the in-person nature of the interviews, respondents could directly enter answers into the laptop for some sensitive questions. ACASI was the self-administered portion of the interview, and it included an audio option which allowed participants to listen to the questions and answers via headphones if they chose. The audio portion specifically catered to those whose literacy was in question. For those individuals
who were reluctant to participate in in-person interviews or who were temporarily away from their households, interviews were conducted via phone.

**Measures**

**Maternity Leave**

Respondents answered questions on fringe benefits such as paid maternity leave. Periods of paid leave due to pregnancy/birth of a child were recorded between the start of the job or the date of the last interview (whichever is the latter) and stop date of the job if the job has ended or the date of interview if the job is ongoing. Interviewees were asked if there “were any periods of a full week or more during which you took any paid leave from work because of a pregnancy or the birth of a child.” Only those respondents who were age 16 and over and had reported a job in which they had been employed for at least 13 weeks or had reported a job which lasted at least 13 weeks and ended following their 16th birthday, were asked questions on fringe benefits. If the job met the criteria, respondents were provided a card listing the general fringe benefits and were asked to report the appropriate benefits. Respondents were asked the number of paid leaves per year to which they were entitled either currently or when the job ended. Questions regarding fringe benefits were asked in each survey year. Since both men and women took paid leave due to pregnancy/birth of a child, the data set was truncated to included only women.

**Income/Assets**

In the *Youth Survey Questionnaire* questions about income and assets were combined in the YINC portion in round 1 of data collection and then further divided into two sections for the subsequent rounds. Data was collected on the income and assets of the youth as well as the youth’s partner or spouse. In the *Parent Questionnaire*, earnings of household members at the year 1996 and other income and assets were collected. In rounds 2-5 in the brief *Household*
**Income Update Questionnaire** income information was collected from a respondent’s parent. For instance, for youth respondents living with parents, both parent’s and parent’s spouse or partners salaries, pre-tax income acquired from wages or other income like farm and business income, child support, inheritance, or government programs, commissions and tips during the year were collected from this survey.

**Results**

I used hierarchical linear modeling (HLM), also referred to as multi-level modeling to test the hypotheses. Contrary to traditional regression-based or correlation-based procedures, HLM, accounts for the nesting of surveys or timepoints within a person (Dalal et al., 2009; Raudenbush & Bryk, 2002). Essentially HLM is an advanced form of ordinary least squares (OLS) regression which analyzes variance in the outcome variable, which in my case is income, when the predictor variables are at different hierarchical levels (Woltman et al., 2012). In other words, HLM provides us the opportunity to explore the relationships between and within hierarchical levels of grouped data, concurrently, allowing us to achieve more efficiency with accounting variance among different variables at varying levels (Woltman et al., 2012). Because the data was nested (i.e., different timepoints were nested within individuals), and because I was investigating contextual effects, HLM was a more favorable analysis method to use compared to single-unit methodologies such as ANOVA (Lee, 2000; Raudenbush & Bryk, 2002). Table 1 (see appendix) shows the results of the HLM analysis. The following HLM models were used in this study:

**No Growth Model**

Level-1 Model: \( Y = B_0 + R \)

Level-2 Model: \( B_0 = G_{00} + U_0 \)
The no growth model consisted of solely the intercepts which represent the grand mean effect. Y, or the outcome variable equals income. Typically, the outcome variable is placed at the lowest level of the hierarchy, such as Level 1 (Castro, 2002). Additionally, regression equations assume normality of distribution in the dependent variable. As income is not normally distributed, it was transformed by taking the natural log. In the first step of the HLM analysis an interclass correlation (ICC) was calculated to determine if there was enough within-person variance. This step also determined whether the use of HLM was needed or whether a single level analytic method was warranted. Results from the no-growth model revealed 21% of the variance in income can be attributed to the person-level.

**Unconditional Growth Model**

Level-1 Model: \( Y = B_0 + B_1 \times \text{(Time)} + R \)

Level-2 Model: 
\[
B_0 = G_{00} + U_0 \\
B_1 = G_{10} + U_1
\]

In the second step of the analysis, the effect of time over income was investigated. The unconditional growth model consisted of the intercepts and time entered as a Level 1 variable. In the Level 2 model, both the intercept, \( B_0 \) and slope of the time variable, \( B_1 \) is modeled as a fixed effect, \( G_{00} \) and \( G_{01} \), with a random error, \( U_0 \) and \( U_1 \), respectively.

**Conditional Growth Model 1**

Level-1 Model: \( Y = B_0 + B_1 \times \text{(Time)} + R \)

Level-2 Model: 
\[
B_0 = G_{00} + G_{01} \times \text{(Age97)} + U_0 \\
B_1 = G_{10} + G_{11} \times \text{(Marital Status)} + G_{12} \times \text{(Tenure)} + G_{13} \times \text{(Total Number of Leave)} + U_1
\]
In the conditional growth model one other control variables were added. Age at the year 1997 was added in the intercept model so I could look at the effect of age at the starting salary when time is at base level. Marital status, tenure, total number of leaves which was also used as a proxy for number of children was subject to change over time, so these variables were entered in the slope model. Age was significant ($b=0.207, p=.000$). Results also show a significant effect between marital status and income ($b=-0.102, p=.000$) over time and tenure and income ($b=-0.074, p=.000$) over time. Total number of leaves and income over time was not significant ($b=-0.001, p=.945$).  

**Conditional Growth Model 2**

Level-1 Model: $Y = B_0 + B_1 \times \text{(Time)} + R$

Level-2 Model: $B_0 = G_{00} + G_{01} \times \text{(Age97)} + G_{02} \times \text{(Length)} + U_0$

$B_1 = G_{10} + G_{11} \times \text{(Marital Status)} + G_{12} \times \text{(Tenure)} + G_{13} \times \text{(Total Leave Number of Leave)} + G_{14} \times \text{(Length)} + U_1$

In the conditional growth model two I examined the linear effect of length of leave on income. Length of leave was added in both the intercept and slope model. Results indicated a positive significant main effect of length ($b=0.028, p=.007$), but non-significant linear effect between length of maternity leave and income ($b=-0.008, p=.489$) over time. Age was significant ($b=0.207, p=.000$). Results also show a significant effect between marital status and income ($b=-0.102, p=.000$) over time and tenure and income ($b=-0.074, p=.000$) over time. Total number of leaves and income over time was not significant ($b=-0.003, p=.868$).  

**Conditional Growth Model 3**

---

1Entering industry type (neutral, male, or female-dominated) as a control variable was considered, however, it was not incorporated in the model due to high amounts of missing data. Table 2 (see appendix) shows some results from the analysis with the industry variable included in the model (for demonstration purposes).
Level-1 Model: \[ Y = B_0 + B_1 \text{(Time)} + R \]

Level-2 Model: \[ B_0 = G_{00} + G_{01} \text{(Age97)} + G_{02} \text{(Length)} + G_{03} \text{(Length^2)} + U_0 \]
\[ B_1 = G_{10} + G_{11} \text{(Marital Status)} + G_{12} \text{(Tenure)} + G_{13} \text{(Total Number of Leave)} + G_{14} \text{(Length)} + G_{15} \text{(Length^2)} + U_1 \]

Finally, in the conditional growth model three I explored the quadratic relationship of length of leave with respect to income. As I was testing the curvilinear relationship between length of leave and income, length was entered as a quadratic term in the intercept and slope model. Results did not show a significant main effect of length squared \((b=-0.036, p=.176)\) or significant curvilinear relationship between length of maternity leave and income \((b=-0.032, p=.346)\) over time. A positive significant main effect of length \((b=0.059, p=.025)\), but non-significant linear effect between length of maternity leave and income \((b=0.015, p=.631)\) over time was observed. Age was significant \((b=0.206, p=.000)\). Results also show a significant effect between marital status and income \((b=-0.102, p=.000)\) over time and tenure and income \((b=-0.074, p=.000)\) over time. Total number of leaves and income over time was not significant \((b=-0.005, p=.806)\). The likelihood-ratio test for goodness of fit \((p<0.01)\) indicates that the linear model \((\text{Loglikelihood}=-4,909.877)\) is a better fit than the curvilinear model \((\text{Loglikelihood}=-4,914.173)\). Overall, apart from the small positive significant effect between the length of leave and income, the linear and curvilinear effects between length of leave and income over time were non-significant. Thus, these results suggest the hypotheses were not supported.

**Discussion**

In this study, I took a multilevel approach to examine the relationship between length of maternity leave and women’s income over time. Using a nationally representative, longitudinal data set, I was able to examine within-person changes across various timepoints. Controlling for
marital status, age at the year 1997, tenure, and total number of leaves taken, which was also used as a proxy for number of children, I found the relationship between the length of maternity leave and income earned by women is non-significant. Thus, contrary to previous research that suggests taking leave can cause lower salary increments (Judiesch & Lyness, 1999), this study provides no evidence of the fact that length of maternity leave and income over time are related. In other words, there is no support for the notion that longer maternity leave is related to less positive career outcomes, such as income, over time or that there is a curvilinear relationship between length of maternity leave and income, such that the relationship between length of leave and income is more positive with shorter leaves compared to no leave but becomes less positive as length of leave increases. As income is often challenging to measure and the data collected was self-reported, it is possible there was less appropriate reporting of income which could have contributed to the non-significant findings. Respondents also answered questions that specifically asked about paid leave, and thus due to government policies, not many individuals may have qualified for paid leave, reducing the amount of data to find an effect. The main effect of length on income was positive and significant, meaning as length of leave increases, income also increases slightly. A small effect size and limitations with the data may have partially accounted for this unanticipated finding. Thus, overall, I do not show any support for hypothesis 1 or hypothesis 2. These findings reflect the complexity of the phenomenon and the need for more research in determining the impact of length of leave on women’s income.

Based on the way women are socialized and perceived in the workplace, taking length of leave into account in this study was essential to understanding career implications experienced by women over time. Like some previous studies, which have taken length into account, (Hideg et al., 2018; Judiesch & Lyness, 1999; Krstic, 2019), I have studied length as a non-dichotomous
variable and wish to make a contribution in clarifying the inconsistencies in the literature on the relationship between parental leave and career outcomes such as income. Furthermore, research shows both pregnancy and motherhood are generally stigmatized in the workplace (Correll et al., 2007). Approximately 80-90% of women will transition from pregnancy to motherhood (Johnson, 2008) and parental leave becomes part of the transition between pregnancy and motherhood. Some prominent ideologies that underlie the discrimination towards women who are pregnant are commitment and flexibility (Morgan et al., 2013). Thus, literature suggests women must continuously reaffirm both their femininity and masculinity to progress in the work environment (Cuddy et al., 2004).

Moreover, investigating the consequences of taking parental leave on parent’s career outcomes is essential in better understanding work-family balance and gender disparities between working mothers and fathers. Increasing work-family conflict is reported in both working mothers and fathers, thus there is a need for both mothers and fathers to balance both work and family responsibilities (Weisberg & Galinsky, 2014). I have catered my focus towards working mothers because women typically take more leaves than men and generally take longer leaves (Klerman et al., 2013), thus the impact of maternity leave on career outcomes for women is increasingly important to investigate. As the number of mothers in the workforce expands, an increasing number of mothers are also becoming a source of financial support to their families (Weisberg, & Galinsky, 2014). In other words, the number of households supported by women are on the rise. A Pew Research Center study released in 2013, showed mothers are the main source of income in 40% of households which include children below the age of 18. Additionally, of these mothers, who serve as a breadwinner in the family, greater than two out of three, or 68% are single parents. Clearly, from these studies, it is apparent women’s role in the
family is evolving. Thus, from a practical standpoint, studying career outcomes such as income, is important not only for women’s individual growth, but also for the family members connected to the women.

On a higher level this research provides insight for companies and organizations developing parental leave policies. Those creating policies should further take notice that increased maternity leave can challenge gender equality specifically by hampering women’s career prospects (Hideg et al., 2018). A more in-depth understanding of the effects of longer leave on women’s career outcomes may help propel initiatives to reevaluate potentially flawed leave policies or treatment of mothers in the workplace. Organizations working towards establishing policies toward greater work-life balance may benefit from learning about the impacts on women’s career outcomes as the duration of parental leave increases.

**Future Directions**

There are a few limitations to this study. One limitation is there could have been more data on leave taken. In the future I may be able to demonstrate there is a significant linear and curvilinear relationship between length of maternity leave and women’s income if I had more data. A second limitation is I only looked at the effect of income due to leave taken by women. For future research, I can replicate this study in a data set which involves both men and women who are employed and have taken parental leave to gain a broader perspective on the effect of length of leave for both genders. Moreover, investigating gender as a moderator of the relationship between length of parental leave and career outcomes may better explain how taking parental leave effects career outcomes differently for men and women. A third limitation is the study involved only a U.S. sample. Thus, a future avenue of research could involve exploring a different population of employees, where the liberality of leave policies differs from that of the
current sample. I may be able to gain some insight on cultural differences in taking leave and career outcomes for women. Replicating this study in another population may offer more generalizability across populations. A fourth limitation is the years investigated in this study extend only to 2011. Thus, in future studies investigating a more current group of women, may be more relevant. As countries evolve with their parental leave policies and the number of women entering the labor market increase, examining recent data may provide a more appropriate picture of the phenomenon.

**Conclusion**

Overall, this study expands on the literature on career outcomes associated with maternity leave. I demonstrate taking longer maternity leave is not related to income over time. Although these findings do not support the notion there is a significant linear and curvilinear relationship between length of maternity leave and income, this research is a steppingstone to understanding the career implications women still face by taking longer leaves. These findings may contribute to the growing literature on income inequality between men and women. As more mothers join the workforce, support their families, and pursue their career goals, it is increasingly important organizations and policy makers take notice of the career implications linked with maternity leave, which thereby influences gender equality, work-family balance, and the overall treatment of women in society. In the future, more research should be conducted to explore the relationship between length of parental leave and career outcomes, such as income, across men and women to better understand the underlying differences between mothers and fathers in the workplace and to enhance the development of strategies to promote equal division of family and work responsibilities among couples. Altogether, this study provides insight into the effects of length of maternity leave on women’s income over time.
References


https://doi.org/10.1177/0958928709352541


https://ec.europa.eu/social/main.jsp?catId=1107&langId=en&intPageId=4487


University Press.


status, and gender to salary level. *Sex Roles*, 27(11-12), 665-681.


Williams, J. C., Blair-Loy, M., & Berdahl, J. L. (2013). Cultural schemas, social class, and the

Appendix

Table 1
Hierarchical Linear Modeling Results with Income as Outcome

<table>
<thead>
<tr>
<th>Parameters</th>
<th>No Growth Model</th>
<th>Unconditional Growth</th>
<th>Conditional Growth Model 1</th>
<th>Conditional Growth Model 2</th>
<th>Conditional Growth Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>s.e.</td>
<td>b</td>
<td>s.e.</td>
<td>b</td>
</tr>
<tr>
<td>Intercept</td>
<td>9.701***</td>
<td>0.025</td>
<td>8.722***</td>
<td>0.041</td>
<td>9.761***</td>
</tr>
<tr>
<td>Time (in weeks)</td>
<td>0.178***</td>
<td>0.006</td>
<td>0.507***</td>
<td>0.020</td>
<td>0.505***</td>
</tr>
<tr>
<td>Age97</td>
<td>0.207***</td>
<td>0.024</td>
<td>0.207***</td>
<td>0.024</td>
<td>0.206***</td>
</tr>
<tr>
<td>Marry*Time</td>
<td>-0.102***</td>
<td>0.015</td>
<td>-0.102***</td>
<td>0.015</td>
<td>-0.102***</td>
</tr>
<tr>
<td>Tott.*Time</td>
<td>-0.001</td>
<td>0.020</td>
<td>-0.003</td>
<td>0.020</td>
<td>-0.005</td>
</tr>
<tr>
<td>Tenure*Time</td>
<td>-0.074***</td>
<td>0.014</td>
<td>-0.074***</td>
<td>0.014</td>
<td>-0.074***</td>
</tr>
<tr>
<td>Length</td>
<td>0.028***</td>
<td>0.010</td>
<td>0.059**</td>
<td>0.026</td>
<td></td>
</tr>
<tr>
<td>Length*Time</td>
<td>-0.008</td>
<td>0.011</td>
<td>0.015</td>
<td>0.031</td>
<td></td>
</tr>
<tr>
<td>Lengthsq</td>
<td>-0.036</td>
<td>0.020</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lengthsq*Time</td>
<td>-0.032</td>
<td>0.034</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Table includes results from an analysis based on 455 employed women from the years 2002 through 2011.
* denotes p<0.1; ** denotes p<0.05; *** denotes p<0.01

Table 2
Hierarchical Linear Modeling Results with Income as Outcome

<table>
<thead>
<tr>
<th>Parameters</th>
<th>No Growth Model</th>
<th>Unconditional Growth</th>
<th>Conditional Growth Model 1</th>
<th>Conditional Growth Model 2</th>
<th>Conditional Growth Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>s.e.</td>
<td>b</td>
<td>s.e.</td>
<td>b</td>
</tr>
<tr>
<td>Intercept</td>
<td>9.701***</td>
<td>0.025</td>
<td>8.722***</td>
<td>0.041</td>
<td>9.769***</td>
</tr>
<tr>
<td>Time (in weeks)</td>
<td>0.178***</td>
<td>0.006</td>
<td>0.186***</td>
<td>0.008</td>
<td>0.186***</td>
</tr>
<tr>
<td>Age97</td>
<td>0.102***</td>
<td>0.026</td>
<td>0.302***</td>
<td>0.026</td>
<td>0.302***</td>
</tr>
<tr>
<td>Marry*Time</td>
<td>-0.003</td>
<td>0.008</td>
<td>-0.003</td>
<td>0.008</td>
<td>-0.003</td>
</tr>
<tr>
<td>Tott.*Time</td>
<td>-0.000</td>
<td>0.000</td>
<td>-0.000</td>
<td>0.000</td>
<td>-0.000</td>
</tr>
<tr>
<td>Tenure*Time</td>
<td>0.181*</td>
<td>0.616</td>
<td>1.063*</td>
<td>0.629</td>
<td>1.101*</td>
</tr>
<tr>
<td>Jobmale</td>
<td>0.731***</td>
<td>0.212</td>
<td>0.403</td>
<td>0.321</td>
<td>0.472</td>
</tr>
<tr>
<td>Jobneutral</td>
<td>0.409</td>
<td>0.552</td>
<td>0.231</td>
<td>0.530</td>
<td>0.191</td>
</tr>
<tr>
<td>Jobfemale</td>
<td>0.192</td>
<td>0.227</td>
<td>-0.023</td>
<td>0.313</td>
<td>-0.045</td>
</tr>
<tr>
<td>Jobmale</td>
<td>0.323</td>
<td>0.579</td>
<td>0.146</td>
<td>0.695</td>
<td>0.239</td>
</tr>
<tr>
<td>Jobneutral</td>
<td>0.242</td>
<td>0.660</td>
<td>0.248</td>
<td>0.664</td>
<td>0.120</td>
</tr>
<tr>
<td>Jobfemale</td>
<td>1.181*</td>
<td>0.616</td>
<td>1.063*</td>
<td>0.629</td>
<td>1.101*</td>
</tr>
<tr>
<td>Jobmale</td>
<td>-0.036</td>
<td>0.653</td>
<td>-0.057</td>
<td>0.637</td>
<td>-0.165</td>
</tr>
<tr>
<td>Jobneutral</td>
<td>0.063</td>
<td>0.476</td>
<td>0.106</td>
<td>0.485</td>
<td>0.010</td>
</tr>
<tr>
<td>Jobmale*Time</td>
<td>-0.088***</td>
<td>0.030</td>
<td>-0.055</td>
<td>0.044</td>
<td>-0.064</td>
</tr>
<tr>
<td>Jobneutral *Time</td>
<td>-0.027</td>
<td>0.081</td>
<td>0.001</td>
<td>0.085</td>
<td>-0.066</td>
</tr>
<tr>
<td>Jobfemale*Time</td>
<td>-0.015</td>
<td>0.031</td>
<td>0.017</td>
<td>0.043</td>
<td>0.007</td>
</tr>
<tr>
<td>Jobmale*Time</td>
<td>-0.034</td>
<td>0.087</td>
<td>-0.007</td>
<td>0.091</td>
<td>-0.032</td>
</tr>
<tr>
<td>Jobneutral*Time</td>
<td>-0.128</td>
<td>0.101</td>
<td>-0.133</td>
<td>0.105</td>
<td>-0.151</td>
</tr>
<tr>
<td>Length</td>
<td>0.004</td>
<td>0.004</td>
<td>0.003</td>
<td>0.010</td>
<td></td>
</tr>
<tr>
<td>Length*Time</td>
<td>-0.001</td>
<td>0.001</td>
<td>0.0002</td>
<td>0.002</td>
<td></td>
</tr>
<tr>
<td>Lengthsq</td>
<td>0.0002</td>
<td>0.0001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lengthsq*Time</td>
<td>0.0001</td>
<td>0.0001</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Table includes results from an analysis based on 455 employed women from the years 2002 through 2011.
* denotes p<0.1; ** denotes p<0.05; *** denotes p<0.01