

THE IMPACT OF AFTER-SCHOOL CHILDCARE ARRANGEMENTS ON THE  
DEVELOPMENTAL OUTCOMES OF LOW-INCOME CHILDREN AND THE LABOR  
CONDITIONS OF THEIR WORKING MOTHERS

BY

HYEJOON PARK

DISSERTATION

Submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy in Social Work  
in the Graduate College of the  
University of Illinois at Urbana-Champaign, 2016

Urbana, Illinois

Doctoral Committee:

Associate Professor Min Zhan, Chair  
Associate Professor Chi-Fang Wu  
Professor Jina Yoon  
Assistant Professor Karen Tabb Din

## ABSTRACT

While working mothers with school-aged children make up 78.6% labor force, finding suitable, available, affordable childcare is still significant challenge. Even though after-school programs (hereafter ASPs) and other types of childcare arrangements have been implemented, childcare for school-aged children remains a patchwork made of up ASPs, relative care, parental care, and self-care, with many families opting to use some combination of all of these. Few studies have examined the impact of various childcare arrangements for school-aged children on other family outcomes, including mothers' labor conditions. Furthermore, most existing studies focus on structured childcare settings, including center-based care and after-school programs; only a few studies have looked at the effects of informal care, including parental care, relative care, self-care, and a combination of care types on child outcomes. In addition, few studies have examined how mothers' labor conditions differ by different types of childcare settings and whether race/ethnicity plays a moderating role in the relationship between childcare settings and mothers' labor conditions.

This study aims to fill these gaps by addressing three research goals: The first goal is to examine whether five different types of after-school childcare settings (after-school programs, self-care, parental care, relative care, and a combination of care) are associated with different academic and behavioral outcomes for low-income school-aged children. The second goal is to examine whether the five different types of after-school childcare settings impact low-income working mothers' labor conditions (working hours, working months, job-shift and training/schools availabilities). The third goal is to investigate whether mothers' race/ethnicity moderates the association between different types of childcare arrangements and working mothers' labor conditions. Employing Bloom's Model of Learning Theory and Bandura's Social

Cognitive Theory, it was hypothesized that ASPs will be positively associated with children's academic and behavioral outcomes. In addition, it was hypothesized that based on the concept of maternal deviancy, relative care will be positively associated with low-income mothers' labor conditions, in particular, ethnic-minority (African American, Hispanic/Latina) mothers' labor conditions.

The present study utilized National Household Education Survey Programs: After-School Programs and Activities (2005) (NHES: ASPA) and use binary logistic and Ordinary Least Square (OLS) regression analyses. Sample units (N= 717) were low-income households including working mothers and school-aged children in any of five different types of childcare arrangements. The study examined one independent variable — five different types of after-school childcare arrangements (ASPs, parental, self-, relative, some combination of care) and several dependent variables, which measure children's academic (academic scores, schoolwork problems) and behavioral (behavioral and school behavioral problems) areas and mothers' labor conditions (working hours and months, regular job shift and training/school availabilities). The study was further developed by the examination of whether race/ethnicity was a moderator affecting the relationship between the independent variable and dependent variable (mothers' labor conditions).

Findings from the study indicate that compared to children in ASPs, those in relative care and parental care had better academic performance (fewer schoolwork problems). Parental care was also positively associated with children's behavioral outcomes (fewer behavioral problems). Furthermore, relative care was positively related to mothers' working hours for all groups and to number of months worked for Hispanic/Latina mothers.

The study's demonstration of a positive association between relative care and both child outcomes and mother's labor conditions suggests a need for more federal and state subsidies for working families using relative care, as well as for financial incentives for relatives who commit their time and effort to childcare. At the same time, the need remains to improve the quality and increase the number of ASPs in economically disadvantaged communities for parents who cannot access relative care or parental care (spouse care). The study results also indicate the need of theoretical development that could help explain how different childcare arrangements influence low-income working mothers' labor conditions and their children's developmental outcomes.

## ACKNOWLEDGEMENTS

This dissertation would not have been possible without the guidance and the help of several individuals who in one way or another contributed their valuable assistance in the preparation and completion of this study.

First and foremost, I wish to express my utmost gratitude to my committee members: Professors Min Zhan, Chi-Fang Wu, Jina Yoon, and Karen Tabb Dina. I will never forget Dr. Min Zhan, who is my mentor, academic advisor, and my dissertation chair. She has been my inspiration whenever I have faced all obstacles in the completion of my study. With generosity and patience, Dr. Zhan has provided invaluable advice and guidance since I entered the doctoral program. She has been my role model. I also would like to express my appreciation to Dr. Chi-Fang Wu for her kind interest in my academic process. Most of all, I sincerely appreciate her insightful feedback on my dissertation, which led me to improve the quality of the study. Dr. Wu has always shown unfailing support as my dissertation committee member. Dr. Jina Yoon, Professor at the College of Education at University of Arizona, has provided countless and steadfast instructions on how to conduct quantitative research in collaboration with researchers from other disciplines and on how to write effective research papers. Despite the distance, she has painstakingly emailed, called, and skyped to provide inputs on elaborating the literature review, especially the child development part, as well as designing research methods and interpreting outcomes for my dissertation. I am also gratefully thankful to Dr. Karen Tabb Dina who has been extremely generous with her time to advise me not only on the dissertation process but also on pursuing my professional growth. She has never hesitated to share the valuable insight and knowledge she has gained from her own experience and has been generous resource

(e.g., providing tips for academic interviews, job talk, and research publications) for all her doctoral students. I deeply appreciate her generosity and support.

I also want to express my gratitude to faculty members, colleagues, and staff at the School of Social Work who have helped me achieve my academic success and to my friend Dr. Janet Zepernick in the Department of English and Modern Languages at Pittsburg State University, whose assistance enabled me to accomplish this study at the highest level.

Last but not the least, my father, Suk Hwi Park, mother, Jung Sook Oh, and especially my loving child, Jihyun Min, are the fundamental source of my strength to continue despite every moment that I wanted to give up and throw in the towel. I also appreciate my aunt, Kyungsook Cho, who has generously given of her time to be with us and care for Jihyun while I pursue my academic career in the U.S. My family is the major force that assists me to achieve my goals. Thank you so much for your unlimited and unconditional love and support for me and for Jihyun. I love you so much!

*Dedicated to my father, mother, and daughter*

## TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION .....	1
Childcare and Working Mothers .....	3
Current Study .....	5
CHAPTER 2: LITERATURE REVIEW .....	8
Backgrounds .....	8
Research Question I .....	14
Research Questions II & III .....	24
Research Gaps and Study Contributions .....	35
CHAPTER 3: METHODOLOGY .....	38
Data and Sample .....	38
Measures .....	41
Data Analysis .....	47
CHAPTER 4: RESULTS .....	48
Descriptive Statistics .....	48
Research Question 1 .....	51
Research Question 2 .....	63
Research Question 3 .....	71
Summary of Results .....	81
CHAPTER 5: DISCUSSION .....	83
Main Findings .....	83
Limitations .....	91
Implications .....	92
REFERENCES .....	101

# CHAPTER 1

## INTRODUCTION

In 2011, around 96% of U. S. families with two parents and children have an employed parent (58.5% of both parents, 30.4% of father only employed, 6.9% of mother only employed) (U S. Department of Labor, 2012). Around five to fifteen million children return to an empty home after school (Chung, 2000). The hours after school are the time period in which juvenile crime is most prevalent (Chung, 2000). Parents who work outside the home often worry about their children's safety, well-being, and the likelihood of drug abuse and crime, which can negatively affect their psychological and emotional well-being (Chung, 2000; Cross, Gottfredson, Wilson, Rorie, & Connell, 2010; Fashola, 2002; Little, Wimer, & Weiss, 2007). In response to parents' concerns, many communities and school have created After-School Programs (ASPs) to keep children away from dangerous factors and fulfill their potential. Therefore, ASPs naturally refer to community-based and school-based programs (Fashora, 1998). ASPs originally started their programs in the early 1900s for the supervision and safety of children living in unsafe and poor communities, and further implemented to meet the need of growing maternal employment in the 1940s. Also, ASPs have gained attention for improving children's development and the quality of the programs their activities (Lauer et al. 2006).

ASPs provide learning opportunities, supervision, structure-based activities, and shelter for children. This is especially true for children in low-income households or urban areas (Cross et al., 2010; Kugler 2001). ASPs generally refer to programs which provide K through 12<sup>th</sup> grade children with safe places to help them avoid maladaptive problems (e.g., crime, drug abuse) and structured and supervised activities to encourage them to learn and develop outside of the school day (Lauer et al., 2006). ASPs are able to keep children from dangerous conditions

while both parents are at work (Little et al., 2007). Also, because children can stay in either the school or community center until 6 pm, working parents have more job flexibility, which will assist them in increasing their household income (Lopoo, 2007), and lead them to have more emotional stability by knowing that their children are in a safe place. Overall, ASPs not only improve the children's developmental areas (e.g., academic, social-emotional, behavioral, physical), but their parents also have an opportunity to improve their financial and emotional well-being.

Numerous studies have found that high quality ASPs have a significant and positive effect on children, especially when the children are most at-risk for poor developmental outcomes (Caughy, DiPietro, & Strobino, 1994; Hagekull & Bohlin, 1995; Posner & Vandell, 1994, 1999; Riggs & Greenberg, 2004; Roffman, Pagano, & Hirsch, 2001). ASPs are also helpful for children from low-income families, who do not have as many opportunities to participate in extracurricular activities or enrichment programs as children from middle/higher income families. Through after-school services and programs in the community, economically disadvantaged children are able to participate in various activities (e.g., group discussion, structured recreation, homework help) that would otherwise not be available (Little et al., 2007).

Other than ASPs, there are other types of after-school childcare arrangements for school-age children between 5 and 13 years old, depending on family income, household composition, and state of residence (Lawrence & Kreader, 2006; Sonenstein, Gates, Schmidt, & Bolshun, 2002). Based on the data from the 2005 After-School Programs and Activities of the National Household Education Survey (ASPA-NHES: 2005),<sup>1</sup> out of the total children in out of school

---

<sup>1</sup> NHES in the U.S. Department of Education provides descriptive data of the educational activities of the U.S. population. The NHES surveys include all ages from early childhood to school age through adulthood. The most recent data file in 2012 consists of Parent and Family Involvement in Education and Early Childhood Program

childcare arrangements, the majority (60%) are cared for by a parent during most or all of their out of school hours. In addition to parental care, the most common types of care for out of school hours are center- or school-based programs (20%), care by a relative other than a parent or older sibling (15%), self-care (12%), non-relative or neighborhood-care (6%), and finally various activities under a certain type of supervision (7%) (Lawrence & Kreader, 2006). Some children (around 32%) are in more than one care arrangement (i.e., some combination of care). Even though many school-aged children are in different types of childcare arrangements during the week, only a handful of studies have investigated outcomes of different types of care (in particular, self-care versus adult-supervised care) and some combination of care. Also, many of these studies were outdated (most research about this subject was done before 2000). Recently there has been a dearth of research examining non-school or informal after-school arrangements (Goyette-Ewing, 2000) compared to plentiful studies about ASPs. Furthermore, there are few studies that take into account children attending a combination of cares (e.g., participating in both ASPs and relative care) as most of the current research concentrates on only ASPs (Posner & Vandell, 1994). This distribution of research might cause people to assume that ASPs are the most important care type, which is not necessarily the case. Knowing that more than half of American school-aged children are engaged in after-school care arrangements other than ASPs, it is important to understand how the different types of care arrangements affect children and their families. The examination of the different types of arrangements will not only assist families in making effective care choices, but will also promote the well-being of communities (Riggs & Greenberg, 2004).

### **Childcare and Working Mothers**

---

Participation (National Center for Education Statistics, 2015a). However, the most recent descriptive information of school-aged children is collected in 2005 (National Center for Education Statistics, 2015a).

Social and economic changes since 1940 have significantly influenced mothers' roles in family structure, child bearing, and maternal employment. While only 28% of women in the U.S. worked for pay outside the home in 1940 (Colby, 2012), more than 62% of women were working by the year 2008 (Laughlin, 2011). In addition, while only poor, nonwhite, single, and/or immigrant women were likely to work prior to the 1940, in the past seven decades, women's employment has increased regardless of family background, race/ethnicity, and marital status (Colby, 2012). In addition, working women in the U.S. have increased their working hours, including shortening their vacation times and paid leave, more than working women in other industrialized countries (Glenn, 2010).

Currently, more than half of American children under age eighteen live in households in which all parents work (Bureau of Labor Statistics, 2012). The most common family type with children today is dual-earner households (47% in 2005), meaning a family in which both parents work for pay outside the home at least 35 hours per week (Bureau of Labor Statistics, 2007). Moreover, hours spent at outside employment for working parents have increased over the last 20 years (Saltzstein, Ting, & Saltzstein, 2001). Under the circumstances of unstable working hours and work demands, many parents find difficulty in maintaining regular supervision for children during out-of-school hours (Christensen, Schneider, & Butler, 2011), and 45.5% of children below 14 years old spend some time each day in self-care (2.3% of children ages 5 to 8 years old, 10.5% of children ages 9 to 11 years, 32.7% of children ages 12 to 14 years old) (Laughlin, 2013). Due to both predictable and unpredictable scheduling issues, working parents, whether partnered or single, struggle to find solutions for their school-age children while they are at work (Christensen et al., 2011).

While many studies have agreed upon the importance of childcare arrangements for low-income working parents, specifically low-income mothers, there is a paucity of studies addressing the childcare arrangements of low-income working mothers whose children are from six to 17 years old, even though the percentage of working mothers with children of these ages has increased from 32.8% to 78.6% (U.S. House of Representatives, 2004). In addition, while numerous studies have revealed the impact of employed mothers on child development, as well as childcare costs and welfare subsidies on maternal employment productivity (wage, job efficiency), Crouter (1994) pointed out there has been little research on the processes affecting mothers' job conditions in light of childcare arrangements, and that research still has not been done. In particular, it is vital to study race and ethnicity because these factors have significantly influenced the construction of American society and are an important element of the "mutually constituted systems of relationships" (Glenn, 2010, p.12) that perpetuate wage gaps. Overall, research about the childcare arrangements of low-income working mothers and their children should be widely conducted not only to promote children's safety and positive developmental outcomes, but also to examine the labor conditions for their parents, in particular the mothers' labor conditions associated with after-school childcare arrangements and associations between selection of childcare type and mothers' race/ethnicity.

### **Current Study**

The purpose of this study is three fold: 1) to examine whether school-aged children from low-income families display different academic and behavioral outcomes based on different after-school childcare arrangements; 2) to investigate whether or not different types of care arrangements are associated with low-income working mothers' labor conditions such as their working hours, working months, job-shift availability, and training/school availability, and

finally; 3) to examine whether working mothers' race/ethnicity moderates the relationship between selection of different types of childcare arrangements and working mothers' labor conditions.

The main contents of my dissertation consist of four additional chapters. In Chapter 2, I first discuss the comprehensive backgrounds of after-school childcare arrangements, including the types of arrangements and factors affecting the choice of after-school childcare arrangements such as Social Economic Status (SES), which includes household income, parental characteristics, and community factors. Second, I discuss theoretical frameworks and prior empirical evidence related to the three research questions. For research question one, I cover two theoretical frameworks — Bloom's Model of Learning Theory and Bandura's Social Cognitive Theory. I also include a literature review of child development in after-school childcare arrangements. For research questions two and three, I delineate maternal deviancy from mothering and motherhood ideology, followed by empirical studies of childcare costs and subsidies relevant to maternal employment. Chapter 3 includes methodology such as the data, the sample, the measurement, and methods of analyses. Chapter 4 includes the results of the analyses and the summary of the study. Finally, in Chapter 5, I discuss major findings and limitations, along with implications for practice, policy, and research fields.

Overall, my study findings will potentially inform policy and program strategies in assisting low-income children's development (particularly in academic and behavioral areas) through locating which types of care arrangements are most effective to their specific developmental domain. The study outcome will provide helpful information to policy-makers and educators by indicating the importance of certain types of childcare arrangements and providing evidence for why one specific childcare setting is better than the other in developing

children's academic and behavioral areas. The study outcome could also inform discussions about improving the quality and quantity of after-school programs in poor communities. Furthermore, results from examinations of the maternal employment conditions (maternal training, job shift, and working time) of low-income working mothers whose children are in different types of after-school arrangements will help inform policy debates about childcare subsidies for specific types of care. Overall, my study finding will indicate which types of after-school childcare arrangements would be beneficial for low-income children's development and their working mothers' labor conditions. Further this study will shed light on how policy-makers should more effectively help low-income working mothers within different race/ethnicity with childcare arrangements that can help with their children's developmental outcomes and their own labor conditions.

## CHAPTER 2

### LITERATURE REVIEW

#### Backgrounds

This chapter outlines the different types of after-school care arrangements, factors associated with structured after-school programs (ASPs), and factors related to the choice of after-school childcare arrangements. Related to research question one, this section delineates two theoretical frameworks, Blooms' Model of Learning Theory and Social Cognitive Theory, and reviews research findings on children's academic and behavioral areas in different types of childcare settings. Related to questions two and three, this chapter covers theoretical assumptions of maternal deviancy from mothering and motherhood ideology and prior empirical studies associated with low-income working mothers affected by childcare costs and childcare subsidies.

#### **Different Types of After-School Childcare Arrangements**

Generally, there are five types of childcare arrangements: parental, relative, neighborhood-, self-care, and after-school programs (ASPs). These types of care arrangements, excluding ASPs, are usually considered unstructured and informal arrangements types. The details of each type of care are as follows:

##### *Unstructured Care Arrangements*

***Parental Care Arrangement.*** This care arrangement is the type where children stay with one of their parents during out of school time (Sonenstein & Wolf, 1999). Parental care shows less flexibility and fewer working hours than care by others because both parents are constrained in their availability for childcare by their work outside the home (Hochschild & Machung, 1990).

***Relative Care Arrangement.*** Children in this care arrangement are taken care of by their grandparents, older siblings, uncles, or anyone related to them in either the parents' or relative's

home (Swenson, 2013). Fifty-two percent of the time the caretakers are grandmothers of the children, and twenty-one percent of the time it is their siblings (Christensen et al., 2011).

***Self-Care Arrangement.*** Children are responsible for themselves without adult supervision (Lawrence & Kreader, 2006), or older children take care of themselves and their younger siblings during parental absence (Christensen et al., 2011).

In general, relative childcare presumably provides some emotional commitment to the health and safety of their relatives' offspring. Therefore, the condition of relative childcare was seldom raised as an issue of concern. However, examining the condition of care within ASPs for older children or childcare services for younger children has been the main subject to providers, governments, and educators (Scarr, 1998). In addition, home-based care types (such as relative and neighborhood) have seldom been studied because the samples may not have been representative in the few existing studies because many of home-care types are unlicensed therefore, it is hard to investigate them (Scarr, 1998).

***Combination of Care Arrangement.*** Children are attending more than one type of childcare types. Combinations involve more supervised childcare arrangements for higher SES children and also involve more relative care for lower SES children (Pettit, Laird, Bates, & Dodge, 1997).

#### ***Structured-Based Care Arrangements***

***After-School Programs (ASPs).*** As opposed to the four aforementioned unstructured and informal types of childcare arrangements, ASPs are considered formal, structure-based programs and have been significantly studied in terms of: (a) the quality of programs and instructors/staff, (b) partnerships with school, community institutions, and families, and (c) the different types of programs offered (Little, Wimer, & Weiss, 2008).

***The Quality of Programs and Instructors/Staff.*** High quality ASPs provide a structured, safe, and supervised setting in response to children’s learning, fun, friendship, and developmental trajectories (U.S. Department of Education, 2000). The quality of programs and instructors is characterized by following critical factors: safe and healthy climates; warm, attentive, well-prepared, highly trained professionalized and responsive staff; a low child-to-staff ratio; intentional programming (Little et al., 2008); and large quantities of program materials and activities (Campbell, Ramsey, Pungello, Sparlin, & Miller-Johnson, 2002; Reynolds, Temple, Robertson, & Mann, 2001; Roffman et al., 2001). Qualified instructors know how to model positive behaviors, encourage students to obtain specific skills during learning processes, listen attentively to participants, frequently provide effective feedback and guidance during activities, and establish clear expectations for respectful peer interactions. Positive interactions and regard from staff members positively affect children’s academic and social-emotional adjustments (Fashola, 1998). Children who feel supported and encouraged by staff are likely to view education and school in high regard, think about their future, and be actively engaged in both school and ASP activities (Little et al., 2007).

***Effective Partnership.*** Partnerships with families, communities, and schools create high quality programs for children’s development by providing additional resources (U.S. Department of Education, 2000; Little et al., 2008). Programs that are involved with families are able to receive a wide range of support from participants and communities at large, and are likely to design fun and culturally-relevant activities and climates that better capture participants’ interests. Good programs take special notice of working parents during design and implementation (e.g., accommodating family schedules, making affordable programs, providing transportation) (U.S. Department of Education, 2000). Strong relationships with schools (e.g.,

school teachers, principals, school boards) result in an increase in participants' homework completion rate, homework effort, positive behavior, and increased initiative because partnerships often increase the quality of activities, promote staff engagement, and provide access to buildings, playgrounds, and school facilities (Intercultural Center for Research in Education & National Institute on Out-of-School Time, 2005).

***Different Types of Programs.*** There are two types of ASPs— community-based and school-based programs (Committee on Community-Level Programs for Youth, 2000). Community-based programs are implemented by community organizations, such as the YMCA/YWCA, 4-H, public agency-sponsored programs, libraries, children's sports organizations, multiservice organizations/religious institutions, ethnic or cultural organizations, and independent youth organizations (Committee on Community-Level Programs for Youth, 2000). Some programs contain specific goals to improve youth's developmental domains, promote social skills, and/or community involvement, or combat substance abuse problems. Others simply provide a safe place for children during out-of-school time (Brecher, Brazill, Weitzman, & Silver, 2009; Riggs & Greenberg, 2004). The ultimate goal of community-based programs is to provide opportunities for holistic youth development in addition to academic achievement (Brecher et al., 2009).

School-based arrangements have become considerably popular for the purpose of childcare or youth development by initiatives of the No Child Left Behind (NCLB) Act (U.S. Department of Education, 2000). Since 21<sup>st</sup> Century Community Learning Centers supported by governmental funding have increased the number of school-based programs. In particular, since NCLB emphasized narrowing the achievement gap in public schools, school-based after-school programs have emphasized improving children's academic levels (Brecher et al., 2009; Riggs &

Greenberg, 2004). Most participants in this setting are academically disadvantaged children or minority children showing lower levels of math and/or reading (Casserly, 2004). As a result, principals and superintendents take after-school hours into consideration for improving academic subjects for academically disadvantaged students by providing academic instructions and school resources (Brecher et al., 2009). School settings are the preferred location for after-school programs for families because schools are very convenient and have many resources on hand for students such as computer labs, books, and other materials (Brecher et al., 2009).

### ***Factors that Affect the Choices of After-School Childcare Arrangements***

Choices of childcare arrangements are significantly linked to a variety of factors such as household income, parental characteristics (race/ethnicity, educational level, location, individual interest), and the availability of childcare arrangements in the community (Han, 1998).

Additionally, working parents' preferences (in particular employed mothers) on childcare arrangements (e.g., the location of the center, the characteristics of the childcare providers, and the overall degree of comfort with the care) (Walls, 2010) also play an important role.

Additionally, maternal beliefs concerning the effects of childcare on children (Walls, 2010) influence parents' decision about a certain type of childcare arrangement. Considering all these parental, family, and community factors, the process of selecting childcare arrangements is complex.

***Household Income.*** The preference for using non-parental care systems or programs before- or after -school appears related to household earning. Families whose annual income is more than \$25,000 are more likely to use ASPs than those who earn less than that amount (Christensen et al., 2011). Children who come from the upper/middle class and two-parent households are more likely to participate in higher quality ASPs having greater activity

flexibility, number of playmates, and age-appropriate activities. On the other hand, children from lower SES families and single-parent households are more likely to be involved in lower quality ASPs in which staff show negative regard for and interactions with children (Little et al., 2008). These children are more likely to have a lower level of achievement in academic subjects than their counterparts (Fashola, 1998).

*Parental Characteristics.* The choice of putting their children in different care arrangements differs by mothers' marital status and race<sup>2</sup> (Arendell, 2000). Arendell (2000) found that African-American mothers rely on their relatives and husbands while White mothers depend on their neighborhood and friend; however, working single mothers in both racial groups rely more on relatives and husbands than friends or neighbors<sup>3</sup>.

In a study of employed mothers with three to six year old children school-age children using the dataset, National Longitudinal Survey of Youth, Parcel and Menaghan (1994) found that mothers who are well-educated are more likely to enroll their children in center-based childcare arrangements and less likely to use home-based care, as they regard children's development of cognitive skills in a structured environment as important. Additionally, Parcel and Menaghan (1994) revealed that mothers who consider the educational achievement as crucial for children prefer to utilize formal childcare arrangements over family- or home-based care. In contrast, mothers who are more concerned with convenient location, hours, and costs are more likely to choose home-based care than centered or school-based care arrangements (Johnson,

---

<sup>2</sup> Marital status is important to mothers because single mothers raising children alone are more likely to undergo economic difficulties than mothers having husbands. The poverty rates of female-headed households with children and married couples with children were respectively 31.6% and 5.2%. The poverty rates of White mothers headed families, African American, and Hispanic were respectively 27.7%, 39.8%, and 47.6%. In addition, the poverty rates of White married-couples, African-American couples, and Hispanic/Latino couples were 4.8%, 8%, 17.4% (Arendell, 2000). In general, two-parent households are more likely to use formal childcare arrangement than single-parent households. For instance, one in four children with two parents has relatives as their primary childcare arrangement as opposed to one in three children from single-parent families (Sonenstein et al., 2002).

<sup>3</sup> Arendell (2000) did not indicate whether friends or neighbors were paid for child care.

2000). Overall, mothers' choices on childcare arrangements are likely to be decided by several parents' characteristics (race/ethnicity, educational background, and individual's interest) and SES.

***Community Factor.*** Families with limited household resources lack the disposable income that allows more affluent families to provide home- and family-based recreational and enrichment activities for school-aged children, in ways ranging from a basketball hoop in the driveway to family trips to museums and other cultural events. When household resources are limited, families depend more heavily on free and low-cost community enrichment opportunities, such as public parks and playgrounds, public libraries, and community-hosted events. However, low-income working families are more likely to live in poor, high-density, and high-risk neighborhoods combining with limited recreational and cultural facilities. Due to a lack of local tax revenue, it is difficult for low-income communities to increase the sustainability of adequate ASPs for children (Christensen et al., 2011). To meet the minimal need for supervision and physical safety outside of school hours, childcare provided by neighbors who have similar conditions is an important source of social support for people in poverty (Gilmore-Barnes, 2006). Families in advantaged neighborhoods, on the other hand, are more likely to be able to afford paid care, and are more likely to have additional resources, such as transportation, that create more flexibility in taking advantage of childcare options (Coleman, 1988).

### **Research Question I**

*Question 1: Do children's academic and behavioral outcomes differ with the five types of after-school childcare arrangements?*

*Hypothesis 1: Children in ASPs will have better academic and behavioral outcomes than those who are in the other four types of childcare arrangements, including relative care, parental, combination care, and self-care.*

### **Theoretical Frameworks**

Both Bloom's Model of Learning Theory (academic development) (Burns, 1996) and Bandura's Social Learning Theory (behavioral development) (Asendorpf, 1996) lead to the hypothesis that ASPs would promote child development to a higher degree than relative care, parental care, combination care, or self-care for low-income children in a constrained environment with limited resources.

#### ***Bloom's Model of Learning Theory***

According to Blooms' theory, there are three elements that affect student's learning: cognitive entry behaviors, affective entry characteristics, and the quality of instruction (Burns, 1996). Bloom emphasized that "the cognitive and affective outcomes of instructions act as the cognitive entry behaviors and affective entry characteristics for the next component of instruction" (Burns, 1996, p.331). Therefore, students who initially receive a low quality of instruction will have less success with subsequent topics related to their initial quality of instruction. Students with a high quality of instruction do not suffer from the compounding issues of those with a lower level of instruction, and instead will approach new problems with confidence and motivation, as they will have a better grasp on the prerequisite items required for the new unit of instruction (Burns, 1996).

Additionally, the learning environment should offer places for children's academic improvement (Catanta, 2005). In structured educational settings, although children may make errors in solving math problems, they usually receive frequent feedback and explanations from

instructors, which assists them in developing math and problem-solving skills (Siegler & Shrager, 1984). In academic settings, children's instructional practice and amount of time spent studying academic subjects influence the higher levels of children's accuracy in math (Cahan & Cohen, 1989). All in all, Bloom's model suggests that high quality ASPs that contain structured lessons, educational materials, and regular feedback from instructors/staff would have a stronger positive impact on participants' academic development than unstructured childcare arrangements (e.g., relative, self, parental-care).

### *Social Cognitive Theory*

According to social cognitive theory (Bandura as cited in Asendorpf, 1996), children's social experiences influence how they mentally represent their social worlds and process social information. In other words, children's cognition directs their display of social behavior. Infants and small children learn—and eventually internalize—certain behavioral patterns through compliance with parental rules. “Practicing” rule compliance is a major stage in the development of self-regulation because children display efforts to control their own behavior (Gifford, 2001). However, the process of internalizing socially accepted behaviors does not progress smoothly from childhood to adulthood (Asendorpf, 1996). This is because individuals' ability to create intentional and goal-directed actions are significantly influenced by social relationships in their environments and by cognitive changes that affect individual behavior (Asendorpf, 1996).

Social cognitive theory suggests that in order to provide proper programs for children who display behavioral problems, altering environmental conditions is promising. Specific programs should be developed for both family, and school and/or community settings. One successful family involvement is teaching parents to reduce their aversive treatment/harsh

discipline while consistently punishing aggression with time out (isolation), and encourage them to reward their children for acceptable social behavior (Patterson as cited in Perry, 1996). An appropriate school intervention involves increasing teachers' and peers' awareness of bully/victim problems, developing clear rules against aggressive behavior, and providing support and protection for victimized children (Olweus as cited in Perry, 1996).

Social cognitive theory also recommends that it is effective to instruct children with behavioral problems in school or community settings with cognitive strategies designed to reduce aggression (teaching them to avoid assuming that others are acting with hostile intent, to be aware of the harmful consequences of aggression, to think of nonaggressive solutions to conflict) (Perry, 1996). Children who present behavioral problems are likely to have more opportunities to be given proper instruction and adequate social strategies within the plentiful resources in ASPs, than those who do not participate in ASPs or only participate in unstructured arrangements. Therefore, attending high quality ASPs can be beneficial for children who are more aggressive, or display antisocial behaviors, and can allow them to learn more acceptable behaviors.

### **Empirical Studies: Child Development in After-School Childcare Arrangements**

There are some significant findings on school-aged children's academic and behavioral areas by different types of childcare arrangements. The majority of studies indicated that structured high quality ASPs are more likely to lead to better academic (Birmingham, Pechman, Russell, & Mielke, 2005; Lauer et al., 2006; Little et al., 2007; Mahoney & Cairns, 1997; Posner & Vandell, 1994; Reisner, White, Birmingham, & Welsh, 2001) and behavioral outcomes (Brecher et al., 2009; Carter, Straits, & Hall, 2006; Durak & Weisberg, 2007; Goldschmidt, Huang, & Chinen, 2007; Little et al., 2008; Philiber, Kaye, & Herrling, 2001; Weiss &

Nicholson, 1998) for participants than unstructured childcare arrangements, including self-care and neighborhood-care. However, the findings of children's outcomes in relative, parental care, and ASPs are mixed. Howie's (1996) study of 231 third and fourth grade children in inner-city schools discovered that there were no significant differences between ASPs, relative, and parenteral care on children's behavioral areas, but in a study of 585 families in three cities, Pettit et al. (1997) agreed that relative care showed better academic outcomes than ASPs.

### ***Academic Development***

***Parental Care Arrangement.*** In a study of 150 children from suburban elementary schools, Vandell and Corasaniti (1988) found that there were no differences in academic levels when comparing school-aged children in mother-care, self-care, and adult-care. However, children in ASPs improved their academic outcomes (math, verbal, and reasoning competence) compared to the remaining three types of childcare arrangements. In comparing children of working mothers using center-based care (ASPs) to children of working mothers who cared for their children out of school hours and children of non-working mothers, Howie (1996) found that there was no difference on academic achievement for children with working mothers in maternal care and children in ASPs. When comparing maternal care with working mothers and maternal care with non-working mothers, once again, there was no difference between the two groups.

***Relative Care Arrangement.*** Pettit et al. (1997) examined school-aged children's academic outcomes in different types of care including relative care, self-care, neighborhood-care, and ASPs (school-based programs) with the conditions of whether children came from higher or lower SES homes. There was no significant association between SES, relative care, and academic levels, except that lower SES children in relative care had better academic achievement than lower SES children who were in self-care, neighborhood-care, and ASPs.

***Self-Care Arrangement.*** In a study of 260 children in either self-care or adult-supervised care (parental, relative, or neighborhood-care) in their childhood, Woodard and Fine (1991) found that there were no statistically significant differences between two different types of care on participants' academic outcomes. However, Vandell and Corasaniti (1988) using 150 third graders from White, predominantly middle-class suburban schools, found that children in high quality ASPs showed more academic improvement than children in either self-care or adult-care. No difference was found between self-care and adult-care, consistent with Woodard and Fine's (1991) study, Pettit et al. (1997) found that numbers of hours per week in self-care also was an important factor for participants' academic outcomes. For instance, children involved in self-care more than four hours per week displayed lower levels of social competence and academic achievement than children in self-care for less than four hours per week. In addition, boys in self-care were also likely to display poorer academic performance than girls in self-care (Howie, 1996).

***ASPs.*** Several studies (Evaluation of the school-based TASC programs, and the national evaluation of the 21<sup>st</sup> Century Committees Learning Center Programs) found that children from elementary school to middle school in these specific programs improved their academic performance (in particular, math and reading) over the 2<sup>nd</sup> year and school attendance (Little et al., 2007) over counterparts who were not in the programs. Children in high quality programs with various stimulating activities, such as academic enrichment, homework assistance, the arts, and recreation, performed better on math test scores and had better high school attendance rates (Birmingham et al., 2005; Reisner et al., 2001). Participants in high quality ASPs that provided hands-on activities, academic skill-building activities, leadership skill activities, and homework help were more likely to improve their school attendance. These students also had lower

suspension rates, saw some improvement in their grades and test scores (Little et al., 2008), and decreased their school dropout rates (Mahoney & Cairns, 1997).

The ASPs that solely focus on academic areas in the program did not result in expected academic improvement. Rather, balancing a variety of structured extracurricular activities with engagement and fun was more helpful and effective in bolstering participants' academic performance (Little et al., 2008). Generally, children attending structured ASPs showed better grades than children in parental care or informal adult supervised arrangements (Posner & Vandell, 1994).

### ***Behavioral Development***

More than 50% of American children stay at home unsupervised after four p.m. Among this group, adolescents who are unsupervised for more than 30 hours per week are more likely to be sexually active than those who left alone for five hours a week or less (Brecher et al., 2009; Little et al., 2008). Additionally, children are more likely to commit juvenile criminal activities during after school time from three to six p.m. (Chung, 2000). Steinberg (1986) proposed that self-care situations increase opportunities for children to be exposed to and involved in antisocial activities with peers, and studies show that absence of adult supervision was strongly correlated to development of behavioral problems (Diamond, Kataria, & Messer, 1989; Posner & Vandell, 1994), especially among younger children (lower graders), low SES children (Pettit et al., 1997), and boys (Diamond et al., 1989). Numerous studies have shown that high-quality, structured ASPs<sup>4</sup> had the effect of reducing behavioral problems for children (Brecher et al., 2009; Carter et al., 2006; Durlak & Weisberg, 2007; Goldschmidt et al., 2007; Little et al., 2008; Philiber et al., 2001; Weiss & Nicholson, 1998). However, this finding was specific to high-quality, structured

---

<sup>4</sup> The representatives of the ASPs included Children's Aid Society Carrera Adolescent Pregnancy Prevention Program, Girls Inc.'s Friendly PEERsuasion Program, Project Venture, and Safe Haven Program.

ASPs. When comparing behavioral outcomes for children in center-based ASPs (not identified either high-quality or low-quality)<sup>5</sup> with children in relative and parental care, ASPs showed no advantage over relative and or parental care (Vandell & Corasaniti, 1988). In addition, some studies found that children in relative care displayed better behavioral outcomes than those in parental care (Vandell & Ramanan, 1991)<sup>6</sup> and some other studies showed no difference between relative and parental care (Vandell & Corasaniti, 1988). These studies suggest that while high-quality, structured ASPs can contribute to improved behavioral outcomes, there is no behavioral disadvantage to relative or parental care compared if the ASPs are not well-structured.

***Parental Care Arrangement.*** Vandell and Corasaniti (1988) compared behavioral outcomes for children in parental care to the outcomes for children in other adult-care, in self-care, and in ASPs. They found that while there were no significant differences between school-aged children in parental and adult-care, only children having less interaction with peers in ASPs showed lower levels of negative conduct problems compared to adult-care or self-care.<sup>7</sup> However, in comparing care outcomes for ASPs and parental care in families with non-working mothers, with both part- and full-time working mothers, Howie (1996) found that there were no significant differences in children's levels of anxiety, social status, and life skills competence based on care type.

---

<sup>5</sup> Vandell and Corasaniti (1988) identified that the quality of after-school programs they studied was “questionable.” Most after-school programs with a large number of children and a small staff with minimal training provided limited age-appropriate activities, provided poor quality activities, and negatively affected or did not help improve participants’ developmental areas (p. 875).

<sup>6</sup> The study of Vandell and Ramman (1991) used nationally representative data, National Longitudinal Study of Youth. This study did not identify whether After-School Care was high or low quality care.

<sup>7</sup> There was no further explanation of how children’s parents decided the choice of care types, which means as Vandell and Corasaniti (1988) explained there might be a selection bias, which children in ASPs would have more behavioral problems than children in the other types of care therefore, their parents wanted to send these children to ASPs so that they would have more interactions and supervision from adults in ASPs.

**Relative Care Arrangement.** Pettit et al. (1997) found that low-income school-aged children in relative care, ASPs, and adult-supervised care displayed fewer behavioral problems than low-income school-aged children who were not involved in any type of the care.

**Self-Care Arrangement.** Utilizing a pilot study, Diamond et al (1989) found that children who stayed at home alone, or were with their older siblings under 17 years old but unsupervised by adults were more likely to display and acknowledge their behavioral problems than children who were supervised by a person older than 17 years of age. However, this study did not take race/ethnicity and SES into consideration. Additionally, the sample size was very small; therefore, these outcomes need to be interpreted with caution. Posner and Vandell (1994) also detected that children in self-care or in informal adult supervised arrangements displayed more problems with antisocial behavior than children attending ASPs. However, the outcome of this study is difficult to generalize since the study looked at childcare in rural areas, and both ASPs and parental care may differ in rural and urban areas (Posner & Vandell, 1994).

Some studies comparing self-care and adult supervised childcare discovered that there were no significant differences in social adjustment and behavioral improvement for children from low- and middle-income households (Rodman, Pratto, & Nelson, 1985; Woodard & Fine, 1991). Additionally, when Pettit et al. (1997) compared self-care in higher SES children and lower SES children, they found that higher SES children did show more externalizing problems (e.g., acting out) than lower SES children independent of the number of hours per week<sup>8</sup> they stayed alone. However, Vandell and Ramanan found that self-care children from lower SES homes displayed higher levels of externalizing problems than their higher SES counterparts at comparable levels of self-care use (as cited in Pettit et al., 1997), and using self-care at a younger

---

<sup>8</sup> The average hours per week of 1<sup>st</sup> graders, 3<sup>rd</sup> graders, and 5<sup>th</sup> graders, were respectively, 10.9, 19.1, and 53.2 hours.

age (comparing grades 1 and 3 with grade 5) appeared to correlate to a long-term risk of behavioral adjustment problems. Other than the SES condition, Diamond et al. (1989) found that boys in self-care displayed more significant behavioral problems than girls in self-care. Despite some differences in study outcomes, it was apparent that low-income children and children with existing behavioral and academic problems experienced worse outcomes from self-care than from relative, parental, or ASP care (Pettit et al., 1997). However, not all studies found negative aspects of self-care. Goyette-Ewing (2000) indicated that older children in self-care increased responsibility for themselves, which led them to be more independent and self-reliant than adult supervised children.

**ASPs.** A great deal of research found that children who attended structured high quality ASPs (treatment groups) avoided many behavioral problems, such as drug and alcohol abuse, delinquency and violent behavior, sexual activity, juvenile crime, and had increased safe sex knowledge opposed to those who did not attend the specific programs (control groups) (Brecher et al., 2009; Little et al., 2008). Children benefitted from being supervised by trained staff and enrichment activities during after-school time instead of being alone or being in neighborhood-care. For example, participants in the *Children's Aid Society Carrera Adolescent Pregnancy Prevention Program* experienced fewer pregnancies, reduced teen sex, and less drug abuse (Philiber et al., 2001). Girls in the *Girls Inc.'s Friendly PEERsuasion Program*, which had a structured curriculum and activities for preventing substance abuse, displayed positive outcomes of avoiding the onset of alcohol use and similar situations (Weiss & Nicholson, 1998). Children in *Project Venture*, which offered skill-building, community service, leadership opportunities, and outdoor learning activities, reduced their substance use over time (Carter et al., 2006). Similarly, participants in *LA's BEST programs on juvenile crime* from 1994 to 2003, lowered

their rates of juvenile crime (Goldschmidt et al., 2007). Durlak and Weissberg's meta-analytic study (2007) also observed that ASPs who employed evidence-based skill training approaches were effective in increasing children's self-efficacy/self-esteem and school performance while reducing aggressive behavior and lessening their likelihood of drug abuse. Lastly, children with behavioral problems, who attended ASPs (i.e., Safe Haven Program) more frequently than children who did not<sup>9</sup>, displayed improvement in work habits in the classroom, better school attendance, and less-aggressive strategies to resolve conflicts with peers. This indicated that program attendance rates played a pivotal role in improving children's attitudes toward school in general (Pierce & Vandell, 1999).

Overall, children in ASP arrangements showed better work habits and peer relationships than children in informally supervised after-school settings. They also displayed better emotional adjustment than those who were in either parental care or informal arrangements (Posner & Vandell, 1994).

### **Research Questions II & III**

*Question 2: How do maternal labor conditions (working hours and months, and availabilities for regular job shifts and job training/schools) differ by after-school childcare arrangements?*

*Hypothesis 2: Mothers using relative care will have more working hours and months as well as more availability to have regular job shifts, and job training/schools than those using ASPs, parental, combination, and self-care.*

*Question 3: Does the relationship between childcare arrangements and working mothers' labor conditions differ by race/ethnicity?*

---

<sup>9</sup> The participation of Safe Haven Program was measured by reports of the number of days that children attended the program. Researchers examined the attendance days in the reports by means, standard deviations, ranges, and medians (Pierce & Vandell, 1999).

*Hypothesis 3: Hispanic/Latina and African American mothers will choose relative care at a higher rate than White mothers, and for Hispanic/Latina and African American mothers, relative care will be associated with better labor conditions than ASPs, parental, combination, and self-care.*

## **Theoretical Frameworks**

The ideology of mothering and motherhood, according to Arendel (1999) establishes culturally normative expectations for the performance of motherhood and childrearing.

Regardless of how far the cultural norms of motherhood may be from the day-to-day experience of women with children, they provide the (usually unsated) grounding principles for how women and their children ought to live.

### ***Mothering and Motherhood Ideology***

By definition and condition, mothers share a common set of roles related to physical care, emotional nurturing, and social indoctrination of children although the specific applications of these roles vary across cultures (Glenn as cited in Arendell, 1999). Ideologies of mothering and motherhood are also multifaceted, drawing on cultural tradition, religious teaching, and social science knowledge (Arendell, 1999), but also on the current way of life of the preferred social class and gender. In the U.S. throughout the 19<sup>th</sup> and most of the 20<sup>th</sup> centuries, the culturally normative good mother was “heterosexual, married, and monogamous, white, and native-born.... economically dependent on her income-earning husband ... and not employed” (Arendell, 1999, p. 3). However, as middle-class family buying power began to stagnate in the 1970s, and as the loss of jobs in the manufacturing sector began to push single-earner blue-collar families out of the middle class, the culturally normative good mother adjusted to include the idea of employment — as long as the mother’s employment fits neatly within the confines of the school

day, or school-plus-after-school-care, and is flexible enough to allow the mother to stay at home on days when school is not in session or when the child is sick, and to allow for a still disproportionately heavy investment of time and effort in home-making. The impact of this culturally normative version of motherhood can be seen in every aspect of the childcare equation, but most obviously in the almost universal adoption of the term “after school care,” (which assumes that childcare is not needed before school, on days when school is cancelled or the child is sick, or at times when school is not in session) to refer to childcare for school-aged children. This is just one of many ways that the U.S. ideal of motherhood fails to acknowledge the reality that women have different resources, SES, ethnicity, culture, and ways of nurturing (Arendell, 2000).

### ***Maternal Deviancy***

Maternal deviancy refers to “mothers who do not conform to the script of full-time motherhood and who violate the dictated social characteristics” (Arendell, 1999, p. 4). The subject of maternal deviancy varies by gender, class, and ethnic stratification in the U.S. (Arendell, 1999, p. 4). For instance, while married middle-class mothers are expected to effortlessly combine mothering and paid employment, single mothers and/or white or ethnic-minority mothers relying on public assistance are spotlighted examples of maternal deviancy (Arendell, 1999), as are career-oriented mothers and mothers who are primary wage earners.

The following is the illustration of two major categories of maternal deviancy, working mothers and ethnic-minority mothers. Especially covering historical backgrounds of ethnic-minority mothers (African-American and Mexican) helps understand why these mothers have relied on a specific type of care, relative-care.

***Working Mothers.*** Until recently, while women have spent a majority of their time on in bearing and rearing children, men have spent more of their time in the labor market. This situation partially explains why married men have earned significantly more money than married women (Han, 1998). However, since the twentieth century, a large majority of mothers have chosen or been forced to undertake both mothering and working outside the home, rather than solely working or mothering. Changing social and economic situations led to the conclusion that it is uneconomical for one member of the family to focus only on household work (e.g., childcare), with the result that mothers entered the workforce for economic benefits (Varuhas, Fursman, & Jacobsen, 2003). Many mothers experience hardships, especially related to insufficient time to balance work and family demands (e.g., child-raising). In order to balance their work and childrearing, working mothers rely significantly on other family members (Varuhas et al., 2003) and family (e.g., relative) arrangements and practices (Arendell, 1999).

***Ethnic-Minority Mothers.*** Within historical and social contexts, racial/ethnic and economic inequality affects women's experience of mothering (Collins, 2000). Low-income and/or minority women often experience and interpret motherhood differently than White, middle-class mothers. In order to work, they have frequently relied on their relatives or community networks taking over mothering whenever they have had to work outside the home (Collins, 2000), which is contradictory to the dominant ideology of intensive mothering. In minority groups, community and relative care of school-aged children builds an effective support system for working mothers and provides flexibility for both working hours (shifts) and number of hours worked (Collins, 2000). In minority families, relationships and social connections have been fostered by relative/kin labor (Glenn, 2010) especially during periods of extreme hardship,

such as under conditions of slavery and Reconstruction for African American mothers, and in periods of cultural transition (Glenn, Chang, & Force, 1994).

Mothering reflects not only ideas of gender but also of race (Glenn et al., 1994). The concept of mothering should be understood as caring labor in different groups of women, especially women of color. The way of understanding mothering by race can simultaneously comprehend gender and race privilege (Glenn et al., 1994). Racial domination and economic exploitation construct the mothering contexts, not only for ethnic-minority women in the U.S. but for all women. The ideology of intensive mothering described by Arendell (1999) establishes the maternal practices of the cultural elite—for whom women's lack of employment is a mark of status rather than a mark of failure—as the standard, thereby marking as deviant the practices of both working class White women and women of color. Historically, women of color always interwove the activities of mothering and work at the same time (Glenn et al., 1994).

Historically, African American, Hispanic, and Asian American women were exempt from the dominant cult of domesticity and the ideology of intensive mothering because they were seen as individual units of labor, rather than as members of family units (Glenn et al., 1994). Because ethnic minority mothers were not allowed to be full-time mothers, but were required to be part-time ones in order to accomplish their economically necessary work outside the home, ethnic-minority women needed to share their responsibility of mothering with other family members or other women in the community. Mothering and caring were therefore not seen as exclusively women's work but the boundaries of domestic cooperation between families and communities (Glenn et al., 1994, p. 6). Thus family-based labor services have been shaped by women's motherwork. In particular, motherwork is defined by “work for the day to home, whether it is on behalf of one's own biological children, or for children of one's own racial

ethnic-minority community” (Glenn et al., 1994, p. 48). This was essential to survive for ethnic-minority mothers (Glenn et al., 1994).

Mexican immigrant culture does not view the economic and household work of women as dichotomized. Mexican mothers felt less ambivalent regarding their employment especially when they have recently immigrated to the U. S. (Glenn et al., 1994) In the 1900s, even though Whites Anglos accepted Spanish heritage, the landowning elite’s recognizing them as a type of White person, they did not apply this notion to the majority of Mexicans<sup>10</sup> who were small farmers, pastoralists, and workers and thus considered them Indians, mestizo or akin to African Americans. So during the period of time, the majority of Mexicans were referred to as “unfree” labor and not entitled to the rights of American citizenship (Glenn, 2010).

These unique cultural and historical backgrounds of ethnic-minority families have constructed a willingness to rely on relative care (Glenn et al., 1994). Arendell (2000) found that poor ethnic-minority mothers rely on family and relatives more than white mothers.<sup>11</sup> In contemporary periods of time, sharing childcare with extended family members is a reciprocal and acceptable practice and acceptable custom to African-America and Hispanic families. For instance, both African American and Mexican mothers rely significantly on grandparents living in the same neighborhood to ask for their assistance for childcare assistance. Another option for these mothers is older children. Mothers ask the older children to care for the younger children while they work outside of the home. The last option for these mothers is their siblings, the children’s aunts (Clutter & Nieto, 2015; Glenn et al., 1994). When older children take care of their younger siblings, they learn responsibility; when aunts, uncles, and grandmothers take care

---

<sup>10</sup> In the U.S. racial composition, Mexicans are the by far the largest Hispanic-origin population, nearly two-thirds (64%) of the U.S. Hispanic population in 2012 (Gonzalez-Barrera, 2013).

<sup>11</sup> Social class (measured by income) and ethnicity play a significant role when selecting childcare options for children (Kontos, Howes, Shinn, & Galinsky, 1997).

of children, they naturally build strong community bonds beyond family or kinship ties (Clutter & Nieto, 2015; Glenn et al., 1994). Following the racial and ethical custom of sharing childcare responsibilities, these caregivers (relatives) have not only assisted ethnic-minority mothers to continue working outside of the home, but they have also been strongly involved in protecting their children's lives (safety), fostering their emotional and academic areas, and teaching them the expected social roles, family values, and community culture (Clutter & Nieto, 2015; Glenn et al., 1994). By keeping with the traditional custom, ethnic-minority mothers consider their relatives for taking care of their children and trust their roles in nurturing and supervising their children.

Overall, considering the characteristics of relative care, such as convenience to ask for childcare, flexibility, and easy accessibility, relative care seems likely to have improved outcomes for working mothers regarding extending working hours, and increasing the availability of attending job training and schools than other types of childcare (ASPs, parental, self, combination care) which are structured and/or have time limits. It is more difficult to leave children in other types of care for a long time than in relative care. This phenomenon of asking relatives for childcare can be further explained by two factors: cultural and historical backgrounds and socioeconomic situations. First, when it comes to the cultural and historical uniqueness, ethnic-minority families, using relative care, would believe asking for relative assistance for childcare is natural, acceptable, and easy when working outside of the home and labor training (Glenn et al., 1994).

Second, with respect to a socioeconomic reason, ethnic-minority employed mothers, particularly, Hispanic/Latina mothers, believe that they provide their relatives with better job opportunities and economic incentives than what the relative could find in the labor market (e.g.,

the agricultural fields, the food processing plants, factories, or hotels) (Uttal, 1999). If relatives have lower educational levels, have recently immigrated to the U.S., display poor English fluency, and lower employment skills, then these immigrants are likely to be engaged in blue collar jobs. In order to assist these relatives, ethnic-minority working mothers make the decision of mutually beneficial arrangement between families needing childcare and relatives needing better employment options (Uttal, 1999).

### **Empirical Studies: The Economic Relationships between Childcare and Employment Among Women with Children**

Even though the following studies have not directly focused on the impact of different types of childcare arrangements on working mothers' labor conditions along with race/ethnicity, the literature review below highlights how different types of care are significantly affected by childcare costs and government subsidies. Understanding the relationships between childcare settings and childcare costs and subsidies will provide insight into how to implement the best childcare arrangements to effectively assist low-income working and/or ethnic-minority mothers with regard to the matter of childcare costs and subsidies.

In order to increase mothers' labor force, it is apparent that the government policies and regulation influence childcare arrangements and mothers' labor force participation. The government-based programs providing childcare assistance—notably the Child Care and Development Fund block grant program (CCDF) and Child Care Tax Credit, AFDC—are geared toward low-income families; particularly encouraging mothers to remain in the labor market (Anderson & Levine, 1999) and increase the quality of childcare for their children (Berger & Black, 1992). Therefore, a number of economists have explored the childcare market by

examining how various factors relevant to childcare (i.e., childcare costs/prices, childcare subsidies) impacts maternal employment (Michalopoulos & Robins, 2000).

### *Effects of Childcare Costs on Maternal Employment*

Childcare costs are a major expenditure for families, which reduces a family's disposable income (Immervoll & Barber, 2006). First, there is a significant relationship between childcare costs and women's work-related conditions, which indicates that childcare costs have a large effect on labor force participation. For instance, the price of childcare has a significantly negative effect on the probability of a mother working (Powell, 2002). As childcare costs increase, women's workforce participation decreases (Ribar, 1992). On the other hand, the decrease of childcare costs increases mothers' employment. For instance, a 10% reduction in the price of center-based care, babysitter, or relative care increased the probability of mothers working and using that mode of care (Powell, 2002). Second, market childcare costs negatively impact employment and paid care utilization and encourage unpaid care utilization. The price of center and sitter-care significantly reduces the probability of choosing to go back to work and using center and sitting care (Powell, 2002). Relative care is less likely to be sensitive to price than center-based or sitter-based care because the price of relative care does not significantly affect its choice by employed mothers<sup>12</sup>. In fact, the presence of another adult in the household has a significantly positive impact on the probability of working and utilizing his/her (e.g., relative) help with childcare (Powell, 2002). And third, welfare subsidies (i.e. food stamps) are a positive factor for the increase of paid care utilization and a negative factor for unpaid care utilization (Powell, 2002). These empirical studies indicate childcare costs have a negative effect on

---

<sup>12</sup> Powell, 2002 did not clearly identify whether the government pay for relative care.

mothers' labor supply (Blau & Robins, 1988) and significantly prohibitive for some working mothers to continue their jobs (Haney, 2009).

### *Effects of Childcare Subsidies on Maternal Employment*

Studies have reported mixed findings regarding the effects of childcare subsidies on maternal employment. The Job Opportunities and Basic Skills (JOBS) program initiated under the 1988 Family Support Act and childcare subsidies from the Aid to Families with Dependent Children (AFDC) program increased employment levels of the welfare recipients (Anderson & Lavine, 1999). Even though some of the employment gains were huge in percentage terms, the absolute gain in employment rates was typically small (Anderson & Lavine, 1999). For instance, 40% of the treatment group receiving childcare subsidies worked at some point during the year compared to 34% of the control group on the waiting list for childcare subsidies. However, with a moderate employment effect and the large array of other components of the treatment, childcare played a small role in increasing employment. Subsidized childcare may have a modest effect, at best, in increasing employment levels of very low-skilled, single mothers with small children (Anderson & Lavine, 1999).

Childcare subsidies seem to have a modest effect on mothers' employment (both full-time and part-time). Increasing annual subsidies by \$100 for full-time workers who use center care would increase full-time employment by about four-tenths of a percentage point. In addition, increasing subsidies by \$100 for full-time workers using only parental care (spouse left at home) was predicted to increase full-time employment by just over 1%. Increasing subsidies by \$100 for part-time workers using only parental care would increase part-time employment about one-tenth of a percentage point (Michalopoulos & Robins, 2000).

Wage subsidies, in particular targeted childcare subsidies, or unconditional childcare subsidies, impact labor supply decisions and decisions to substitute across different types of care by working mothers (Powell, 2002). For instance, if wages were subsidized by 10%, the probability of choosing any of the “working states” [working/center, working/relative, working/sitter, working/husband] increased (Powell, 2002, p. 123). Overall, if wages were subsidized by 10%, the labor force participation rate among mothers increased from 43.2% to 47.3% with the largest increases in the probability of working and using center-based care and babysitter-care (Powell, 2002). At the same time, a 10% price subsidy for formal care (center or babysitter care) strongly increased employment rate from 43.2% to 48.4% concomitantly increasing the rates of utilizing formal care. This led to the phenomena of switching informal (relative, husband-care) to formal care (Powell, 2002). When the childcare subsidy on all types of care (all price reduced by 10%) was provided, maternal employment once again increased from 43.2% to 48.8% and the majority of new labor participants used sitter-care. The probability of both working and using sitter-care increased from 17.2% to 23.6%, and the probability of both working and using center-care also increased from 6.6% to 7% (Powell, 2002).

Overall, the aforementioned studies explained how childcare costs affect the decision of mothers, especially low-income mothers, about employment and increase/decrease certain types of childcare arrangements (e.g., structured center care versus unstructured childcare). Powell (2002) also found that unstructured care (e.g., sibling and relative care) showed a positive impact on working mothers’ labor supply. Providing childcare subsidies was effective in encouraging women to work (Michalopoulos & Robins, 2000) even though Anderson and Lavine (1999) found that offering childcare subsidies was the best benefit to only very low-skilled, single mothers with small children. In addition, offering wage subsidies led working mothers to switch

from informal childcare settings to formal ones and to increase the probability of working. Finally, full unconditional subsidies were more likely to increase maternal employment than conditional subsidies such as only center-based care (i.e., modest employment effects) (Powell, 2002).

### **Research Gaps and Study Contributions**

This study will potentially make several contributions to the literature with meaningful implications for policy and practice. First, the previously reviewed studies have examined what types of childcare arrangements exist, how various factors (e.g., SES) affect choosing certain types of childcare arrangements, and how child development is affected in different types of care arrangements. However, as demonstrated in the introduction, previous research findings on child development within different childcare arrangements are outdated. In order to advocate for the most effective public policies, services and programs to support low-income working mothers and children, it is necessary to have recent, evidence-based analysis of current conditions. In addition, a majority of studies about after-school childcare arrangements have focused only on after-school programs (ASPs). No recent study has compared other different types of care on job conditions among low-income working mothers, who often used these different types of care.

Secondly, even though the aforementioned findings shed light on the effects of both childcare costs and subsidies on maternal employment, major findings resulted from a Canadian dataset (Michalopoulos & Robins, 2000; Powell, 2002), and the age groups of children from prior studies ranged widely from 0 to 15 years old. Employing the outcomes of Canadian studies which examined Canadian social situations would be problematic in the U.S. since the public and welfare systems differ. In addition, as aforementioned in the introduction, there are few studies focusing on working mothers with older children, which is the growing population of the U.S.

Therefore, applying the outcomes from this study of childcare issues with younger children would be problematic to working mothers with older children since older children have distinctly different needs than younger children. Most of all, all prior studies attempted to examine the effectiveness of childcare arrangements through studying the impact of its costs and subsidies on maternal employment because these studies were all conducted with economic perspectives. None of the previous studies have attempted to directly unearth different outcomes of maternal employment based on varied childcare arrangements. Third, even though the labor conditions of working mothers can be varied within different race/ethnicity due to their unique historical labor backgrounds in the U.S. and within different cultural contexts, mothers tend to utilize different childcare arrangements, none of the existing studies examined such differences.

In order to offset the limitations of the research found in the discussed studies, through employing the U.S. dataset (NHES: ASPA) of 2005, the current study examined how child academic and behavioral outcomes differ by five different after-school childcare arrangements, and how low-income maternal employment labor conditions will vary by different after-school childcare arrangements (focusing on only school-aged children up to 15-years-old). In addition, the study investigated if race/ethnicity acts as a moderator when after-school childcare arrangements impact mother's labor conditions.

Based on my best knowledge, this study is one of the first empirical investigations that examines whether children's development outcomes and low-income working mothers' labor conditions (maternal working time, availabilities of regular job shifts and training/schools) differ by different types of after-school childcare arrangements. Findings from the study will contribute to furthering our knowledge regarding the associations between the different types of after-school childcare arrangements and children's developmental outcomes and mothers' labor

conditions. In addition, the differential outcomes for academic and behavioral development of participants' within different childcare arrangements (rather than just ASPs) can inform social work practitioners and educators which arrangements are more beneficial for children from low-income families. It also provides insights on the importance of quality of ASPs to ensure these programs are properly implemented in low-income communities.

Furthermore, the results of low-income working mothers' labor conditions in different types of after-school arrangements and the role of race/ethnicity will provide helpful information to policy-makers when they decide what kinds of support they will provide in order to foster positive labor participation, especially concentrating on ethnic-minority low-income working families (e.g., help them decide what are sufficient childcare subsidies for low-income working parents who put their children in different types of care arrangements). In addition, as mentioned above, while numerous studies have cast light on childcare issues with mothers of younger-aged children related to maternal employment, little research has been conducted related to childcare matters with mothers of older children even though many low-income working mothers have school-aged children. Therefore, the research outcomes of the current study are likely to provide new information about childcare issues for school-aged children, which have barely been studied.

## **CHAPTER 3**

### **METHODOLOGY**

#### **Data and Sample**

“The National Household Education Surveys Programs: After-School Programs and Activities” (2005) (NHES: ASPA) was developed by the National Center for Education Statistics (NCES) within the U. S. Department of Education by incorporating random-digit-dial (RDD) telephone surveys of households in the U.S. from January 3 through April 24, 2005, to collect information for the 2004-05 school year only (National Center for Education Statistics, 2015b). NHES: ASPA is a nationally representative survey which collected information about school-aged children in preschool/kindergarten through grade eight (middle-school children ages up to 15) in the 50 states and District of Columbia (Carver, Iruka, & Chapman, 2006). NHES has collected information relevant to school-aged after-school childcare arrangements three times, in 1999, 2001, and 2005. All of the data surveys were collected separately from one another, and therefore were not longitudinal in nature, but cross-sectional.

The survey content was designed by the NCES staff through carefully consulting with experts in academic and research institutions as well as government agencies to obtain their perspectives on the survey topic. In order to design the surveys, researchers took five steps. First, the survey staff conducted a review of the relevant literature, drawing on professional journals, scholarly books, and government reports. Second, a set of research questions were developed for each survey which identified the content areas that should be addressed, provided, and used in order to ensure that the important issues within the content areas were covered. Third, in order to examine if the content areas were clearly addressed and the items fitted to the concepts, the staff carefully examined extant surveys, provided with copies of the NHES: 2001 instruments. Fourth,

selected experts were asked to respond regarding areas proposed for deletion, to comment on the relative priorities of specific areas of survey content, and to identify important research issues that were not addressed in previous surveys. Finally, to polish the survey questions, telephone conferences were held with 24 experts (Hagedorn, Montaquila, Carver, O'Donnell, & Chapman, 2006).

The respondent for the ASPA interview was the adult living in the household who was the most knowledgeable about the child's care and education. For the most part, the respondents were the mothers of the children. However, respondents could be the fathers, stepfathers, adoptive parents, foster parents, grandparents, relatives, or nonrelatives. All parents were asked basic demographic questions about the child, the child's health and disability status, parent/guardian characteristics (e.g., race/ethnicity types, parents' educational levels, parents' labor conditions), household income, household characteristics, and also various questions about the parents' choice to send or not send their children to ASPs (Hagedorn et al., 2006).

The total sample of children, 11,684 students, represented a weighted total of 36,185,760 students (respondent rate was 84%). 20% was from the Northeast, 20% from the Midwest, and 20% from the West, with the last 40% coming from the South (Hagedorn et al., 2006). The data contained information about student participation in different types of care arrangements, such as ASPs (community- and school-based care), relative-, neighborhood-, self-, and parental-care. The phone interviewees were the parents or guardians in the household who knew the specifics of their children's care and education. The interview was conducted in either English or Spanish (Carver et al., 2006).

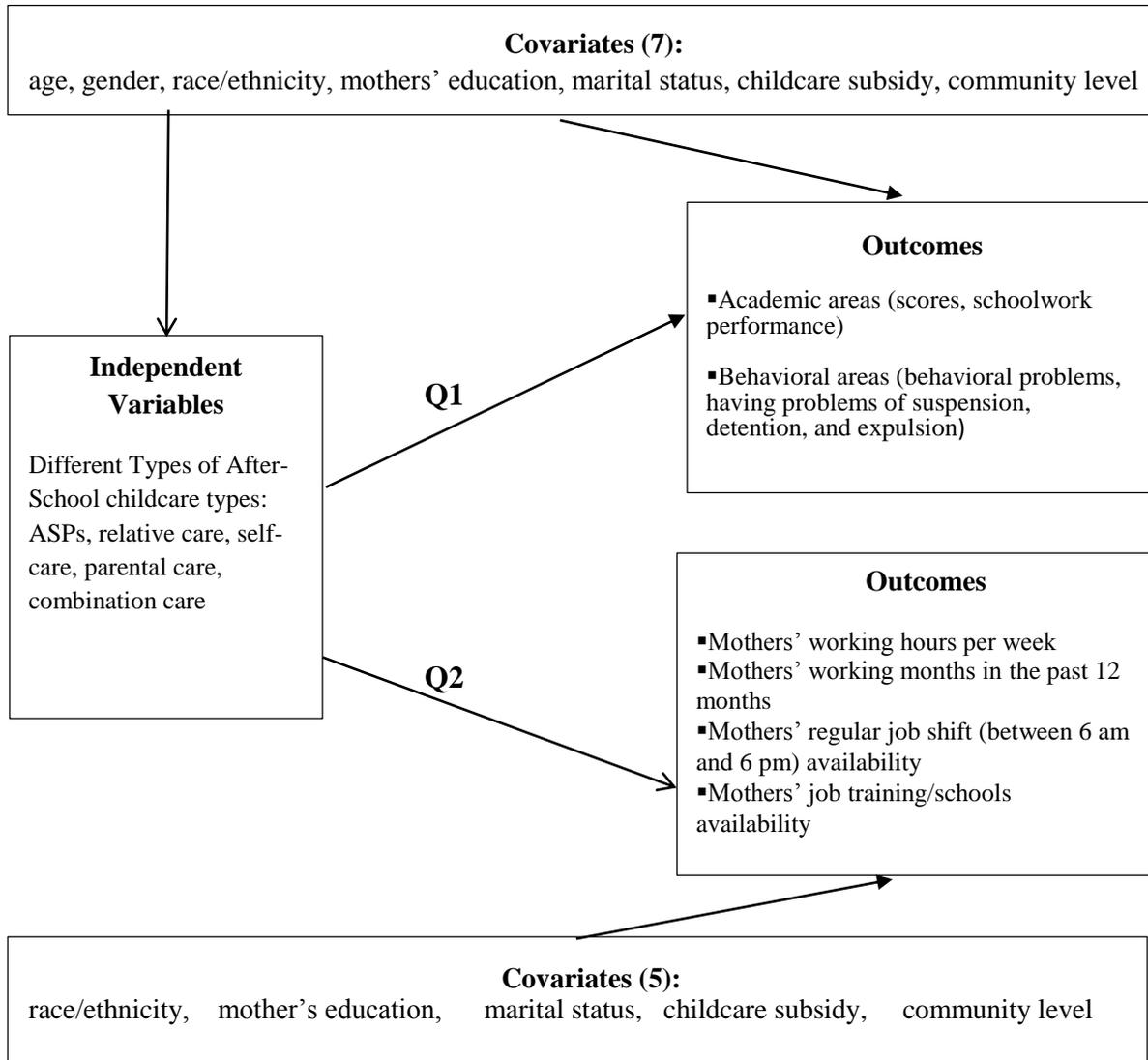
### **Sample Selections**

For this study, the sample was drawn using the following four criteria. First, the children should attend formal schools (either public or private) (11,415). Therefore, those who are in homeschooling (269) were excluded, because children's outcomes needed to be reported by the teachers, and this selection helps examine if the after-school arrangements affect the mothers' labor conditions (e.g., job training, working hours, and shift time). Second, in order to select only "low-income (and the most financially vulnerable) families," defined as families whose income was twice (or 200 percent of) the federal poverty threshold (U. S. Census Bureau, 2013), it was necessary to apply 200% of the poverty threshold from the U.S. Census of 2004, which considers the annual household income and the number of household members. Since the characteristics of the household income variable in the dataset are categorical, the median value in each category for the annual household income was used. For instance, for code 1, I used \$2,500 as the median (\$5,000 or less). For code 2 (\$5,000-\$10,000), I took \$7,500 as the median. However, the people (n = 2,067) in code 14 (over \$100k) were excluded, because the median for this group could not be calculated, resulting in 1,983 participants. Third, in order to select only working mothers, I chose those who responded "yes" to the following question, "*During the past week, did you (mother/stepmother/foster mother) work at a job for pay or income including self-employment?*" In a total of 842 of the low-income families the answer was "yes," indicating that only around 43% of the low-income mothers were employed. Additionally, in order to examine the independent variables in different types of afterschool childcare arrangements, the following cases were excluded: those who did not use any types of after-school childcare arrangements (n = 49) and the missing cases (n = 25). Finally, I dropped the other races (n = 51) due to a small sample size for each group. The sample of 717 participants was used for data analyses. A

description of the core variables for the current study is provided in both the Conceptual Model and in Table 1 in Chapter 4.

### Conceptual Model

The conceptual model for the research questions is as follows:



### Measures

#### Research Question 1

*Do the participants' outcomes in the academic and behavioral areas differ with the*

*five types of after-school childcare arrangements: ASPs (school and community-based), relative care (including neighborhood-care), self-care, parental care, and some combination of care?*

**Hypothesis 1.** It was hypothesized that children in ASPs show better academic and behavioral outcomes than children in other types of care. This hypothesis was drawn from the two theories: Bloom's Model of Learning Theory (academic development) and Bandura's Social Learning Theory (behavioral development). These theories emphasize that structured learning settings that provide proper instruction and adequate social strategies support children's development in academic and behavioral areas, and thus these settings should lead to better outcomes than non-structured environments.

**Independent variables (IVs):** The independent variables are After-School Programs (ASPs) (the reference group) (n=114), which include school- and community-based programs. The comparison groups are relative care (n=178), which combines relative care (n= 147) and neighborhood-care (n=31)<sup>13</sup>; self-care (n=94); parental care, which includes mother/stepmother/foster mother or father/foster father/stepfather (n=266); and some combination of care types (n=65). The combination-care includes combinations of community-based and relative care (n=28), self- and community-based care (n=18), and self- and relative care (n=19).

**Covariates.** The literature shows that both the choice of childcare arrangements and child development are impacted by salient family variables. From the dataset, the following family-level variables were used: mothers' marital status, including four categories of married

---

<sup>13</sup> Relative care includes family members such as grandmothers, grandfathers, aunts, uncles, brothers, sisters but not the child's parent or step-parent. Neighborhood-care refers to babysitting by a neighbor including in the context of home childcare (National Center for Education Statistics, 2015c).

(reference group), separated, divorced, never married and mothers' education, including three categories of without high school diplomas (reference group), high school diplomas, and college and above. Household income and the number of household members were not included because these variables were already used to select the data set (low-income households). At the individual level, children's age, gender of boys (reference group) and girls, and three race/ethnicity types, which were White (reference group), African American, and Hispanic/Latino. At the policy level, the selected variable was receiving childcare subsidies: "*Is the state government or welfare agency currently helping you pay for any childcare costs (for any child)?*" (1 = yes, 0 = no). Finally, at the community level, the selected variable was household location (located in a rural or urban area). For this question, respondents only needed to answer by choosing either Urban (1) or Rural (2) when asked "*Where are you living?*"

***Dependent Variables (DVs).*** The following four variables available from the dataset were used as dependent variables: parents' report of the children's academic score, having problems with school work, behavioral problems, and having experience of suspension, detention, and expulsion. The first two variables, academic scores and schoolwork problems, were used as measures of children's academic development. Behavioral problems and school behavioral problems were used to assess children's behavioral development.

The children's academic scores were measured with the question, "*Overall, across all subjects, what most grades your child get from school?*" It was recoded as binary variables with A (n = 192) as 1 and B (n = 214), C (n = 104), D (n = 26), and F (n = 11) as 0. B to F (B+C+D+F) were combined into the group "B and below" because the number of each case was small and widely distributed, it would be easier to detect the difference with two groups A and "B and below." The other academic development was asked to parents about their child's

schoolwork behavior. The specific question that respondents were asked was, “*Have any of (CHILD)’s teacher or (his/her) school contacted you about any problems (he/she) is having with schoolwork this year?*” The response was binary, with the options again being either “Yes” (1) or “No” (0).

For behavioral development, the category of behavioral problems was used as a binary variable with the options of “Yes” (1) or “No” (0) to the question “*Have any of (his/her) teachers or (his/her) school contacted by you (or (Child))’s (mother/stepmother/foster mother/father/stepfather/foster father/grandmother/grandfather/aunt/uncle/cousin) (or (the) other adults(s) in your household) about any behavior problems (he/she) is having in school this year?*” The other item for behavioral development was having experienced suspension, detention, and expulsion using the question “*Has your child experienced of ① out of school suspension? ② in-school suspension/detention or ③ expelled?*” This question was also treated as a binary with a “Yes” response to any of the three questions indicating serious disciplinary action recorded as 1, and responses of “No” for all three questions recorded as 0.

## **Research Question 2**

*How do maternal labor conditions differ according to the after-school childcare arrangements?*

**Hypothesis 2.** It was hypothesized that low-income working mothers who used relative care would have positive outcomes for their labor conditions in the form of more working hours per week and more months worked in the past twelve months. Relative care is hypothesized to increase mothers’ hours and months worked because relative care has more flexibility. This allows mothers to extend their working hours (Collins, 2000; Johnson, 2000) and give more availability (Day, 2012) to have regular job shift and job training/schools than structured ASPs and other types of care including self-care, parental care, and some combination of care. Overall,

it was expected that the participants using relative care would display better outcomes on labor conditions than those who use other types of care. Mothers also prefer to choose a childcare arrangement close to their houses for convenience (Gilmore-Barnes, 2006). Low-income parents leave younger children to the supervision of older children while they work (Christensen et al., 2001).

**Independent variables (IVs).** The independent variables are the five different types of out of school care, as in Question 1.

**Covariates.** Race/ethnicity, mothers' education, mothers' marital status, childcare subsidy, and residence in urban/rural areas were selected. In particular, childcare subsidy<sup>14</sup> at the policy level is considered to be a substantial control variable as aforementioned in the literature. This is the area that most significantly affects mothers' employment and an increase in childcare utilization.

**Dependent variables (DVs).** There are four dependent variables that measure mothers' labor conditions: mothers' working hours per week, mothers' working months in the past 12 months, mothers' availability to work regular job shifts, and mothers' availability to attend job training/schools. The specific four questions pertaining to mothers' labor conditions are as follows: ① Asking weekly work hours, "*About how many total hours per week (do you/does she) usually work for pay or income, continuing all jobs?*" Answers were given in whole numbers (weekly hours), which are treated as continuous. ② As for asking mothers' working months in the past 12 months, respondents were asked "*In the past 12 months, how many months, [if any], (have you/has she) worked for pay or income?*" Answers were given in whole numbers (past months), which are treated as continuous. ③ Asking the availability of mothers'

---

<sup>14</sup> As aforementioned (p. 43), this question was asked "*Is the state government or welfare agency currently helping you pay for any childcare costs (for any child)?*" (1 = yes, 0 = no).

job shift was asked “(Do you/does she) work a regular day shift, that is, one with most of the hours between 6 am and 6 pm?” For this question, respondents only needed to answer by choosing either “Yes” (1) or “No” (2). ④ Asking whether mothers attended schools or job training sessions was asked “(Are you/is (Child) ’s (mother/stepmother/foster mother/grandmother/(NAME)) attending or enrolled in a school, college, university, or adult learning center, or receiving vocational education or job training [other than at (your/her) regular job]?” For this question, respondents only needed to answer by choosing either “Yes” (1) or “No” (2). The last two variables are treated by dichotomous.

### **Research Question 3**

*Does mothers’ race/ethnicity moderate the associations between different types of after-school childcare arrangements and mothers’ labor conditions?*

**Hypothesis 3.** The hypothesis is that, compared to White mothers, Hispanic/Latina and African American working mothers would have more positive outcomes of labor conditions (working time, availabilities of regular job shift, and job training/schools) when they use relative care because they often ask for childcare help from their relatives either at home and in communities where many extended families live (Collins, 2000). As aforementioned in the literature, relative care has more flexibility (Collins, 2000) than structured ASPs, self-care, and parental care (either mothers-side or fathers-side leave at home with children).

The hypothesis is also drawn from the theory of maternal deviancy from the mothering and motherhood ideology, which indicates that (including extended families in their same race minorities) relatives have often taken care of children whenever mothers need to work outside. In addition, the flexibility of relative care will be more likely to meet the needs of working mothers for working hours and for availability for job shifts and job training/schools.

**Independent variables (IVs).** The independent variables are the same ones used for Question 1 and Question 2.

**Covariates.** There are four covariates: mothers' educational levels, mothers' marital status, childcare subsidies, and community levels.

**Dependent variables (DVs).** The dependent variables are the same as for Question 2.

**Moderating variable.** Race/ethnicity.

### **Data Analysis**

In order to explore these three research questions, after presenting descriptive analyses on sample characteristics, there are two types of regression analyses employed: the first one is the binary logistic regression that will be used for the dichotomous dependent variables of the Question 1, children's academic scores, schoolwork problems, behavioral problems, and school behavioral problems. This analysis will be also employed for the two outcomes variables of the Question 2, mothers' regular job shift availability as well as whether or not attending job training/schools. The second analysis method is the Ordinary Least Square (OLS) regression analysis. This method will be employed for two continuous dependent variables of the Question 2, mothers' working hours per week and working months in the past 12 months. To examine the moderating effect of race/ethnicity (White, African American, Hispanic/Latino), the two types of analyses will be utilized for the subgroup of analyses of White, African American and Hispanic samples. Most of all, in order to control for the effect of covariates, all these variables were put into the same model with independent variables while running each analysis.

## CHAPTER 4

### RESULTS

#### Descriptive Statistics

Weighted percentages, mean, and standard deviation of key variables are presented in Table 1. Weighted statistics were utilized due to the sampling procedure of the data collection. All of the estimates in the data were based on weighting the observations using the probability of selection of the respondents and other adjustments to partially account for nonresponse and coverage bias (Carver et al., 2006).

**Table 1. Percentages, Means, and Standard Deviation of the Sample (N = 717)**

Variables	%	M	SD
<b><i>Independent Variables</i></b>			
<b>After-School Childcare Arrangements</b>			
After-School Programs (School- and Community-based)	17.1		
Relative Care	26.2		
grandmother	41.3		
grandfather	1.9		
Aunt	12.4		
Uncle	5.1		
Other relatives	16.6		
Self-Care	13.2		
Parental Care	36.0		
Combination of Care	7.4		
ASPs & relative care	2.9		
Self-care & ASPs	2.3		
Self-care & relative care	2.1		
<b>Socio-demographic Characteristics</b>			
Age in years (3-15)		9.56	2.73
Gender			
Male	49.1		
Female	50.9		
Race/ethnicity			
White	33.9		
ASPs	12.3		
Relative Care	26.3		
Self-Care	12.8		
Parental Care	41.2		

**Table 1 (cont.)**

Variables	%	M	SD
Combination of Care	7.4		
African-American	23		
ASPs	18.2		
Relative Care	23.6		
Self-Care	14.5		
Parental Care	34.5		
Combination of Care	9.1		
Hispanic/Latino	43.1		
ASPs	17.5		
Relative Care	24.3		
Self-Care	12.6		
Parental Care	35.3		
Combination Care	10.4		
Mothers' marital status			
Married	41.4		
Widowed/separated/divorced	32.5		
Never-married	26.1		
Mothers' educational levels			
Without high school diplomas	31.7		
High school or equivalent	37.7		
College experience and above	30.6		
Policy level (childcare subsidies)			
Yes	16.4		
No	83.6		
Community Level			
Urban	79.1		
Rural	20.9		
<b><i>Dependent Variables</i></b>			
<b>Developmental Outcomes</b>			
Academic areas			
Scores			
A	34.1		
B and below (B,C, D, or F)	65.9		
Having problems with Schoolwork			
Yes	28.6		
No	71.4		
Behavioral areas			
Behavioral problems at school			
Yes	26.5		
No	73.5		

**Table 1 (cont.)**

Variables	%	M	SD
Having experience of suspension, detention, expulsion			
Yes	9.4		
No	90.6		
<b>Mothers' labor conditions</b>			
Working hours per week		33.23	10.80
Working months in the past 12 months		9.81	3.27
Training/schools availability			
Yes	20.9		
No	79.1		
Regular Job shift availability (6 am to 6 pm)			
Yes	87.7		
No	12.3		

As indicated in Table 1, other than parental care (36%), and self-care (13.2%), 17.1% of children were in ASPs, 7.4% of children were in some combination of care, and 26.2% of children used in relative care. Most of all, grandmother (41.3%) and other relatives (16.6%), including sibling care, were the primary caregiver in relative care when relative care was alone and also when relative care was used in combination with other care types (29.5% of grandmothers, 24.4% of other relatives). The average age of the children in the study was 9.56 years old. More than half were girls (50.9%). Race/ethnicity distribution was White (33.9%), African American (23%), and Hispanic/Latino (43.1%). Among White mothers, 12.3% used ASPs (n = 30), 26.3% used relative care (n= 64), 12.8% used self-care (n = 31), 41.2% used parental care (n = 100), and 7.4% used combination of care (n = 18). Among African American mothers, 18.2% used ASPs (n = 30), 23.6% used relative care (n = 39), 14.5% used self-care (n = 24), 34.5% used parental care (n = 57), and 9.1% used combination of care (n = 15). With respect to Hispanic/Latina mothers, 17.5% used ASPs (n = 54), 24.3% used relative care (n =

75), 12.6% use self-care (n = 39), 35.3% used parental care (n = 109), and 10.4% used combination of care (n = 32).

In regards to mothers' marital status, 41.4% were married; 32.5% were widowed, separated, or divorced; and 26.1% were never married. In terms of mothers' educational levels, 31.7% had less than a high school education, 37.7% had high school or equivalent, and 30.6% had some college or higher. Only 16.4% of households received childcare subsidies. Furthermore, a majority of households lived in urban areas (79.1%).

In academic outcomes, 34.1% of children received A's and 65.9% of children received B's, C's, D's, or F's. Additionally, 28.6% of children had schoolwork problems. In the behavioral areas, 26.5% of children showed behavioral problems at school. Additionally, 9.4% of children had experienced suspension, detention, and expulsion.

For mothers' labor conditions: first, average working hours per week was 33.23, average working months in the past 12 months was 9.81, 20.9% of working mothers had job training/school availability, and 87.7% of them had regular job shift availability.

### **Research Question 1**

*Do the participants' academic and behavioral outcomes differ by five types of after-school childcare arrangements, ASPs (school and community-based), relative, self-, parental care, and some combination of childcare?*

#### ***Academic outcomes***

The two variables, academic scores and having schoolwork problems were assessed for children's academic areas. For these two variables, binary logit regressions were utilized.

***Academic scores.*** This model contained seven covariates (age, sex, race, mothers' educational levels, marital status, childcare subsidies, and community levels). The full model

containing both independent variables and covariates were statistically significant,  $\chi^2 (14, N = 171) = 38.17, p < .001$ . The model as a whole explained between 5.2% (Cox and Snell R square) and 7.2% (Nagelkerke R square) of the variance in the dependent variable. As shown in Table 2, two of the covariates made a unique statistically significant contribution to the model. First, there was a significant association between mothers' academic levels and children's academic scores. Specifically, the positive B value<sup>15</sup> (.54) indicated that compared to children whose mothers without a high school degree (reference group), children whose mothers with a college degree or above were more likely to receive "A". In addition, according to the odds ratio (OR)<sup>16</sup>, children whose mothers with college and above showed about 2 times more likelihood of receiving "A" scores than children whose mothers without high school diplomas ( $B = .54, OR = 1.72, p = .01$ ). Second, the positive B value (.29) of sex indicated that girls were more likely to receive "A" than boys (reference group). Also, the odds ratio of a girl receiving score "A" was 1.3 times higher than for a boy receiving score "A" ( $B = .29, OR = 1.34, p = .07$ ). These outcomes suggested that girls were more likely to receive "As" than boys; however, the estimate was only marginally significant. The negative B value (-.13) of age indicated that an increase in age resulted in a decreased probability of receiving "A" scores. Also, one-year increase in age was associated with 11% decrease in the odds of receiving grade the score A ( $B = -.13, OR = .89, p = .00$ ). That is, older children were likely to receive lower grade (B or below) than younger children.

---

<sup>15</sup> B values are used in "an equation to calculate the probability of a case falling into a specific category" (Pallant, 2007, p. 175). In other words, this value explains whether the direction of the relationships is positive or negative (e.g., which factors increase the likelihood of a "Yes" answer and which factors decrease it) (Pallant, 2007).

<sup>16</sup> Odd ratio represents the "change in odds of being in one of the categories of outcome when the value of a predictor increases by one unit" (Tabachnick & Fidell as cited in Pallant, 2007).

**Table 2. Logistic Regression Estimates on Academic Scores**

Variables	Model		
	<i>B</i> ( <i>SE</i> )	Exp( <i>B</i> ) OR	95% CI
After-School Childcare Arrangements (ASPs)			
Relative Care	.087(.27)	1.09	[.65, 1.84]
Self-Care	.18(.33)	1.19	[.63, 2.26]
Parental Care	.37(.25)	1.44	[.89, 2.34]
Combination of Care	.16(.35)	1.17	[.59, 2.33]
Race/Ethnicity (White)			
African American	-.01(.24)	.99	[.62, 1.57]
Hispanic /Latino	.26(.21)	1.29	[.86, 1.95]
Mothers' educational levels (without high school diplomas)			
High school diplomas	.01(.21)	1.01	[.68, 1.51]
College and above	.54*(.22)	1.72	[1.13, 2.63]
Mothers' marital status (married)			
Separated/ divorced/ widowed	-.13(.20)	.88	[.59, 1.30]
Never married	.10(.22)	1.10	[.72, 1.69]
Sex (Boys)			
Girls	.29† (.16)	1.34	[.97, 1.85]
Age	-.13***(.03)	.88	[.83, .93]
Childcare subsidies (Yes)			
No	.16(.26)	1.17	[.71, 1.95]
Community level (Urban)			
Rural	.01(.24)	1.01	[.63, 1.61]
-2 LL		877.34	
<i>df</i>		14	

Reference categories are in parentheses

*SE* = standard error, OR = odds ratios,

†*p* < .10, \**p* < .05, \*\*\* *p* < .001

***Having problems of schoolwork.*** Results from logistic regressions on whether or not having problems of schoolwork showed that the model was significant  $\chi^2 (14, N = 171) = 50.95$ ,  $p < .001$ . The model, containing both independent and confounding variables, explained between 6.9% (Cox and Snell R square) and 9.9% (Nagelkerke R square) of the variance in the dependent variable. The Table 3 indicated that there was a significant association between after-school childcare arrangements and children's problems of schoolwork. First, the negative B value (-.50) of relative care indicated that children in relative care were less likely to have schoolwork problems than children in ASPs (reference group). In addition, the odds ratio indicated that a child reporting schoolwork problems in relative care was 39% lower than a child in ASPs, who reported schoolwork problems (B = -.50, OR = .61,  $p = .070$ ). Second, the negative B value (-.68) of parental care suggested that children in parental care were less likely to display schoolwork problems than children in ASPs. At the same time, the odds ratio indicated that participants having schoolwork problems in parental care were 49% lower than children in ASPs (B = -.68, OR = .51,  $p = .009$ ). Third, there was an association between race/ethnicity and children's schoolwork problems. The negative B value (-.57) of the Hispanic/Latino group indicated that Hispanic/Latino children were less likely to have schoolwork problems than White children (reference group). In addition, the odds ratio indicated that Hispanic/Latino children having schoolwork problems were 43% lower than White children having schoolwork problems (B = -.57, OR = .57,  $p = .010$ ). Fourth, the positive B value (.36) of separated/divorced/widowed mothers indicated that compared to children with married mothers (reference group), children with separated/divorced/widowed mothers were more likely to having schoolwork problems. In addition, the odds ratio indicated that children of separated/divorced/widowed mothers having schoolwork problems were 1.4 time higher than children of married mothers, having schoolwork

problems ( $B = .36$ ,  $OR = 1.44$ ,  $p = .078$ ); however, the estimate was marginally significant. Fifth, the negative  $B$  value of sex ( $-.63$ ) indicated that girls were less likely to have schoolwork problems than boys (reference group). Also, the odds ratio indicated that girls reporting schoolwork problems was 47% lower for boys who reported schoolwork problems ( $B = -.63$ ,  $OR = .53$ ,  $p = .000$ ). Finally, the positive  $B$  value ( $.08$ ) of age indicated that an increase in the variable score resulted in an increased probability of having schoolwork problems. Also, one-year increase in age was associated with one time increase in the odds of having schoolwork problems ( $B = .08$ ,  $OR = 1.09$ ,  $p = .016$ ). These two outcomes indicated that older children were more likely to have schoolwork problems than younger ones.

**Table 3. Logistic Regression Estimates on Having Problems of Schoolwork**

Variable	Model		
	<i>B</i> ( <i>SE</i> )	Exp( <i>B</i> ) <i>OR</i>	95% CI
After-School Childcare Arrangements (ASPs)			
Relative Care	-.50†(.26)	.61	[.36, 1.04]
Self-Care	-.37(.32)	.69	[.37, 1.29]
Parental Care	-.68**(.26)	.51	[.31, .85]
Combination of Care	.40(.33)	1.48	[.77, 2.85]
Race/Ethnicity (White)			
African American	-.34(.25)	.71	[.44, 1.15]
Hispanic /Latino	-.57*(.22)	.57	[.37, .88]
Mothers' educational levels (without high school diplomas)			
High school diplomas	-.08(.21)	.93	[.61, 1.40]
College and above	-.28(.24)	.23	[.48, 1.20]
Mothers' marital status (married)			
Separated/ divorced/ widowed	.36†(.21)	1.44	[.96, 2.16]
Never married	.057(.24)	.82	[.66, 1.69]
Sex (Boys)			
Girls	-.63***(.18)	.53	[.37, .75]
Age	.08*(.04)	1.09	[1.02, 1.17]
Childcare subsidies (Yes)			
No	-.17(.26)	.51	[.51, 1.41]
Community level (Urban)			
Rural	-.14(.25)	.87	[.53, 1.43]
-2LL		803.55	
<i>df</i>		14	

Reference categories are in parentheses

*SE* =standard error, *OR* = odds ratios

†*p* < .10, \**p* < .05, \*\**p* < .01, \*\*\**p* < .001

### ***Behavioral Outcomes***

The two variables, behavioral problems and having problems of suspension, detention, and expulsion were assessed for children's behavioral areas. For these two variables, binary logit regressions were utilized.

***Behavioral problems.*** For the behavioral problems variable, the logistic model contained additionally 7 covariates (sex, age, race/ethnicity, mothers' educational levels, mothers' marital status, childcare subsidy, and community levels). The full model containing independent and confounding variables was statically significant,  $\chi^2 (14, N = 171) = 55.89, p < .001$ . The model as a whole explained between 7.5% (Cox and Snell R square) and 11.3% (Nagelkerke R square) of the variance in the dependent variable. According to Table 4, first, the negative B value (-.57) of parental care indicated that children in parental care were less likely to have behavioral problems than children in ASPs (reference group). In addition, the odds ratio of relative care having behavioral problems was 43% lower than ASPs who reported having behavioral problems (B = -.57, OR = .57,  $p = .039$ ). Second, race/ethnicity showed a significant relationship with a dependent variable. For instance, the positive B value (.58) of African American children indicated that compared to White children (reference group), African American children were more likely to have behavioral problems. Also, the odds ratio of a Hispanic/Latino child having behavioral problems was 1.79 times higher for a White child having behavioral problems (B = .58, OR = 1.79,  $p = .022$ ). Third, the negative B value (-.96) of sex indicated that girls were less likely to have behavioral problems than boys (reference group). Also, the odds ratio of a girl having behavioral problems was 62% lower than a boy who reported having behavioral problems (B = -.96, OR = .38,  $p = .000$ ). These outcomes explained that girls were 62% less likely to have behavioral problems than boys. Fourth, the positive B value (.07) of age indicated that an

increase in the variable score resulted in an increased probability of having behavioral problems of schoolwork problems. Also, one-year increase in age was associated with one time increase in the odds of having behavioral problems ( $B = .07$ ,  $OR = 1.07$ ,  $p = .069$ ). In other words, older children were more likely to show behavioral problems than younger children. However, the estimate was only marginally significant. Fifth, the negative B value ( $-.47$ ) of the independent variable of receiving childcare subsidies indicated that children not receiving childcare subsidies were less likely to have behavioral problems than children receiving childcare subsidies. Also, the odds ratio of a child not receiving childcare subsidies having behavioral problems was 37% lower than a child receiving childcare subsidies ( $B = -.47$ ,  $OR = .63$ ,  $p = .079$ ). However, once again, the estimate was only marginally significant.

**Table 4. Logistic Regression Estimates on Behavioral Problems**

Variables	Model		
	<i>B(SE)</i>	Exp( <i>B</i> ) OR	95% CI
After-School Childcare Arrangements (ASPs)			
Relative Care	-.39(.30)	.68	[.39, 1.20]
Self-Care	-.45(.34)	.64	[.33, 1.26]
Parental Care	-.57*(.27)	.57	[.33, .97]
Combination of Care	.054(.36)	1.06	[.52, 2.12]
Race/Ethnicity (White)			
African American	.58*(.26)	1.79	[1.09, 2.96]
Hispanic /Latino	.032(.24)	1.03	[1.09, 2.30]
Mothers' educational levels (without high school diplomas)			
High school diplomas	.07(.23)	1.07	[.68, 1.67]
College and above	.09(.25)	1.09	[.67, 1.77]
Mothers' marital status (married)			
Separated/ divorced/ widowed	.13(.23)	1.13	[.73, 1.77]
Never married	.32(.24)	1.36	[.85, 2.20]
Sex (Boys)			
Girls	-.96***(.19)	.38	[.26, .56]
Age	.07†(.04)	1.07	[.10, 1.15]
Childcare subsidies (Yes)			
No	-.47†(.27)	.63	[.37, 1.06]
Community level (Urban)			
Rural	-.16(.28)	.85	[.49, 1.47]
-2LL		729.53	
<i>df</i>		14	

Reference categories are in parentheses

*SE* = standard error, OR = odds ratios

†*p* < .10, \**p* < .05, \*\*\**p* < .001

***Having experience of suspension, detention, and expulsion.*** The variable, school behavioral problems (experiencing in and out of school suspension, expulsion) was analyzed holding seven constants (ages, gender, race/ethnicity, mothers' marital status, educational levels, childcare subsidies, and community levels). The full model including independent and confounding variables was statistically significant  $\chi^2 (14, N = 171) = 91.66, p < .001$ . The model as a whole explained between 12% (Cox and Snell R square) and 24.7% (Nagelkerke R square) of the variance in the dependent variable. According to Table 5, first, race/ethnicity showed a significant association with the dependent variable. In specific, the positive B value (1.01) of the independent variable, African American children, indicated that compared to White children (reference group), African American children were more likely to have experience of suspension, detention, and expulsion. In addition, the odds ratio of an African American having problems of suspension, detention, and expulsion was 2.7 times higher for a White who reported having these problems ( $B = 1.01, OR = 2.75, p = .006$ ). Second, mothers' educational levels were significantly associated with school behavioral problems: the negative B value (-.95) of mothers with high school diplomas indicated that children of mothers having high school diplomas were less likely to have experience of suspension, detention, and expulsion than children of mothers without high school diplomas (reference group). In addition, the odds ratio of a mother with a high school diploma having a child's experience of suspension, detention, and expulsion was 61% lower than a mother without a high school diploma ( $OR = .39, p = .005$ ). These outcomes explained that children of mothers with high school diplomas were 61% less likely to have experience of suspension, detention, and expulsion than children of mothers without high school diplomas. Additionally, the negative B value (-1.11) of mothers with college and above indicated that children of mothers with college and above were less likely to have problems of suspension,

detention, and expulsion. Also, the odds ratio of a mother with college and above having problems of suspension, detention, expulsion was 67% less likely to report her child's experience of suspension, detention, and expulsion than a mother without high school diploma ( $B = -1.11$ ,  $OR = .33$ ,  $p = .003$ ). Third, the negative B value ( $-1.38$ ) of sex indicated that girls were less likely to have experience of suspension, detention, and expulsion than boys. Also, the odds ratio of a girl having problems of suspension, detention, and expulsion was 75% lower than a boy who reported having these problems ( $B = -1.38$ ,  $OR = .25$ ,  $p = .000$ ). Fourth, the positive B value ( $.34$ ) of age indicated that an increase in the variable score resulted in an increased probability of having experience of suspension, detention, and expulsion. Also, one-year increase in age was associated with a 1.4 times increase in the odds of having problems of suspension, detention, and expulsion while holding other covariates constant ( $B = .34$ ,  $OR = 1.40$ ,  $p = .000$ ).

**Table 5. Logistic Regression Estimates on having Problems of Suspension, Detention, Expulsion**

Variables	Model		
	<i>B</i> ( <i>SE</i> )	Exp( <i>B</i> ) OR	95% CI
After-School Childcare Arrangements (ASPs)			
Relative Care	-.37(.46)	.69	[.28, 1.69]
Self-Care	-.44(.49)	.65	[.25, 1.69]
Parental Care	-.46(.43)	.63	[.27, 1.46]
Combination of Care	.14(.51)	1.14	[.42, 3.09]
Race/Ethnicity(White)			
African American	1.01**(.37)	2.75	[1.30, 5.68]
Hispanic/Latino	-.38(.38)	.68	[.32, 1.45]
Mothers' educational levels (without high school diplomas)			
High school diplomas	-.95**(.34)	.39	[.20, .75]
College and above	-1.11**(.38)	.33	[.16, .69]
Mothers' marital status (married)			
Separated/ divorced/ widowed	.25(.33)	1.29	[.67, 2.46]
Never married	.41(.36)	1.51	[.75, 3.03]
Sex (Boys)			
Girls	-1.38***(.32)	.25	[.14, .47]
Age	.34***(.07)	1.40	[1.23, 1.60]
Childcare subsidies (Yes)			
No	.02(.42)	1.02	[.44, 2.34]
Community level (Urban)			
Rural	.130(.40)	1.14	[.52, 2.49]
-2 LL		384.31	
<i>df</i>		14	

Reference categories are in parentheses

*SE* = standard error, OR = odds ratios

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

## Research Question 2

*How do maternal labor conditions differ according to children's after-school childcare arrangements?*

There are four variables that measure employed mothers' labor conditions: (1) working hours per week, (2) working months in the past 12 months, (3) the availability of regular job shift (6 am to 6 pm), and (4) the availability of attending job training/schools.

***Working hours per week.*** The relationship between childcare types and employ mothers' working hours per week was examined by OLS regression analysis. Controlling for five covariates, race/ethnicity, mothers' educational levels, mothers' marital status, childcare subsidies, and the community level (rural/urban), the model, containing independent and confounding variables, explained 6.8% (R square) of the variance in mothers' working hours per week, and the model is statistically significant ( $F = 4.27, p = .000$ ). The results from Table 6 indicated that compared to mothers who used relative care, mothers who used ASPs ( $B = -3.41, p = .011$ ), self-care ( $B = -4.32, p = .002$ ), or parental care ( $B = -5.58, p = .000$ ) showed less working hours. After controlling for other factors in the model, African American mothers had more working hours than White mothers (reference group). However, the estimate was marginally significant ( $B = 2.02, p = .088$ ).

**Table 6. OLS Regression Estimates on Working Hours per Week**

Variables	Model		
	Unstandardized	Coefficients	Standardized
	<i>B</i>	SE( <i>B</i> )	$\beta$
After-School Childcare Arrangements (Relative care)			
ASP	-3.41*	1.34	-.11
Self-Care	-4.32**	1.41	-.13
Parental Care	-5.58***	1.10	-.24
Combination of Care	1.34	1.61	.034
Race/Ethnicity (White)			
African American	2.02†	1.17	.08
Hispanic/Latino	1.74	1.06	.08
Mothers' Educational Levels (without high school diplomas)			
High School Diplomas	.74	1.02	.03
College Experience and above	-.50	1.11	-.02
Mothers' marital Status (married)			
Separated/ divorced/ widowed	1.49	1.00	.06
Never married	-.65	1.12	-.03
Childcare cost subsidies (Yes)			
No	-.68	1.29	-.02
Community Level (Urban)			
Rural	-.15	1.22	-.01
	R <sup>2</sup>	.068	
	F	4.27***	

Reference categories are in parentheses

SE = standard error,  $\beta$  = beta

† $p < .10$ , \* $P < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

***Working months in the past 12 months.*** The relationship between childcare arrangements and mothers' working months in the past 12 months was examined by OLS regression. Controlling for five covariates, race/ethnicity, mothers' educational levels and mothers' marital status, childcare subsidies, and resident locations (rural/urban), the model, including independent and confounding variables, explained 3.47% (R square) of the variance in mothers' working months in the past 12 months and the model is statistically significant ( $F = 2.05, p = .018$ ). The results from Table 7 indicated that compared to the mothers who used relative care (reference group), mothers who used parental care had less working months ( $B = -.59, p = .071$ ). However, the estimate was marginally significant. Other than parental care, the other four childcare types did not show significant relationships with working months. Second, compared to White mothers (reference group), African American mothers showed less working months ( $B = -1.05, p = .003$ ).

**Table 7. OLS Regression Estimates on Working Months in the Past 12 Months**

Variables	Model		
	Unstandardized Coefficients		Standardized Coefficients
	<i>B</i>	<i>SE(B)</i>	$\beta$
After-School Childcare Arrangements (Relative care)			
ASP	.05	.40	.01
Self-Care	.54	.42	.06
Parental Care	-.59†	.33	-.09
Combination of Care	.44	.47	.04
Race/Ethnicity (White)			
African American	-1.05**	.35	-.13
Hispanic/Latino	-.41	.31	-.06
Mothers' Educational Levels (without high school diplomas)			
High School Diplomas	.25	.30	.04
College Experience and above	-.23	.33	-.03
Mothers' marital Status (married)			
Separated/ divorced/ widowed	-.33	.30	-.05
Never married	.24	.33	.03
Childcare cost subsidies (Yes)			
No	-.08	.38	-.01
Community Level (Urban)			
Rural	.04	.36	.00
R <sup>2</sup>		.03	
F		2.05*	

Reference categories are in parentheses

*SE* = standard error,  $\beta$  = beta

†*p* < .10, \**p* < .05, \*\**p* < .01

***Regular Job shift availability.*** The association between childcare types and working mothers' regular job shift availability was analyzed by logit regressions holding five constants (race/ethnicity, mothers' marital status, mothers' educational levels, childcare subsidies, and community levels). The full model, including independent and confounding variables, was not statistically significant  $\chi^2 (12, N = 171) = 8.12, p = .78$ . The model as a whole explained between 1.1% (Cox and Snell R square) and 1.7% (Nagelkerke R square) of the variance in the dependent variable. According to Table 8, there was no childcare setting that significantly impacted mother's regular job shift availability.

**Table 8. Logistic Regression Estimates on Regular Job Shift Availability**

Variables	Model		
	<i>B(SE)</i>	Exp( <i>B</i> ) OR	95% CI
After-School Childcare Arrangements (Relative Care)			
ASP	.26(.29)	1.30	[.73, 2.29]
Self-Care	.43(.32)	1.54	[.83, 2.85]
Parental Care	.30(.24)	1.35	[.85, 2.14]
Combination of Care	.48(.37)	.19	[.79, 3.50]
Race/Ethnicity (White)			
African American	-.11(.26)	.67	[.54, 1.48]
Hispanic /Latino	.20(.24)	.39	[.77, 1.94]
Mothers' educational levels (without high school diplomas)			
High school diplomas	-.05(.22)	.83	[.62, 1.47]
College and above	.37(.25)	.15	[.88, 2.37]
Mothers' marital status (married)			
Separated/ divorced/ widowed	-.01(.22)	.96	[.64, 1.53]
Never married	-.06(.25)	.82	[.58, 1.53]
Childcare subsidies (Yes)			
No	.10(.28)	.74	[.64, 1.90]
Community level (Urban)			
Rural	.04(.27)	.87	[.62, 1.77]
-2 LL		743.04	
<i>df</i>		12	

Reference categories are in parentheses  
*SE* = standard error, OR = odds ratios

***Job training/schools availability.*** The association between childcare arrangements and working mothers' job training/school availability was analyzed by logit regressions holding five constants (race/ethnicity, mothers' marital status, mothers' educational levels, childcare subsidies, and community levels). The full model, including independent and confounding variables, was statistically significant  $\chi^2 (12, N = 171) = 43.93, p < .001$ . The model as a whole explained between 5.9% (Cox and Snell R square) and 12% (Nagelkerke R square) of the variance in the dependent variable. According to Table 9, first, mothers' academic levels showed significant associations with job training/schools availability: the positive B value (1.27) of mothers with college and above indicated that mothers with college and above were more likely to have a job training/school availability. Also, the odds ratio of a mother with college and above having a job training/schools availability was about 3 times higher than a mother without high school diplomas (reference group) having job training/schools availability (B = 1.27, OR = 3.38,  $p = .000$ ). These outcomes indicated that mothers with college and above were 3 times more likely to have an availability to attend job training and schools than mothers without high school diplomas.

**Table 9. Logistic Regression Estimates on Job Training/Schools Availability**

Variables	Model		
	<i>B</i> ( <i>SE</i> )	Exp( <i>B</i> ) OR	95% CI
After-School Childcare Arrangements (Relative Care)			
ASP	-.25(.39)	.78	[.36, 1.67]
Self-Care	.31(.38)	1.36	[.65, 2.84]
Parental Care	-.43(.34)	.65	[.34, 1.26]
Combination of Care	-.81(.58)	.44	[.14, 1.38]
Race/Ethnicity (White)			
African American	.42(.33)	1.52	[.80, 2.87]
Hispanic /Latino	-.22(.34)	.81	[.42, 1.55]
Mothers' educational levels (without high school diplomas)			
High school diplomas	-.11(.37)	.90	[.43, 1.85]
College and above	1.27***(.33)	3.38	[1.76, 6.47]
Mothers' marital status (married)			
Separated/ divorced/ widowed	.39(.31)	1.47	[.81, 2.69]
Never married	.40(.35)	1.49	[.75, 2.98]
Childcare subsidies (Yes)			
No	-.35(.35)	.70	[.35, 1.41]
Community level (Urban)			
Rural	.04(.36)	1.04	[.52, 2.09]
	-2LL	445.10	
	<i>df</i>	12	

Reference categories are in parentheses

*SE* = standard error, OR = odds ratios

\*\*\**p* < .001

### Research Question 3

*Does mothers' race/ethnicity play a moderating role in the relationship between mothers' labor conditions and different types of after-school childcare arrangements?*

**Working hours per week by race/ethnicity.** Mothers' working hours per week was assessed by OLS regressions by the subsamples of White, African American, and Hispanic/Latina mothers. This model contained four covariates (mothers' educational levels, mothers' marital status, childcare subsidies, and community levels) and independent variables. For White mothers, controlling for the covariates, the model explained 6.9% (R square) of the variance in White mothers' working hours per week and the model is marginally significant ( $F = 1.73, p = .074$ ). The results from Table 10 indicated that compared to White mothers using relative care, White mothers using parental care showed shorter working hours ( $B = -4.73, p = .014$ ).

For African American mothers, this model explained 7% (R square) of the variance in African American mothers' working hours per week and this model did not show statistically significant ( $F = 1.17, p = .32$ ). The results from Table 10 showed that mothers with high school diplomas had longer working hours than mothers without high school diplomas ( $B = -4.46, p = .064$ ), but the relationship was only marginally significant.

For Hispanic/Latina mothers, this model explained 11.3% (R square) of the variance in the mothers' working hours per week and this model was statistically significant ( $F = 3.78, p = .000$ ). The results from Table 10 showed that compared to mothers using relative care, Latino mothers using ASPs ( $B = -6.40, p = .001$ ), self-care ( $B = -7.41, p = .001$ ), and parental care ( $B = -7.77, p = .000$ ) displayed shorter working hours.

**Table 10. Regression Estimates on Working Hours per Week by Race/Ethnicity**

Variables	White (n = 243)			African American (n = 165)			Latino (n = 309)		
	Unstandardized Coefficients		Standardized Coefficients	Unstandardized Coefficients		Standardized Coefficients	Unstandardized Coefficients		Standardized Coefficients
	<i>B</i>	SE( <i>B</i> )	$\beta$	<i>B</i>	SE( <i>B</i> )	$\beta$	<i>B</i>	SE( <i>B</i> )	$\beta$
After-School Childcare Arrangements (Relative Care)									
ASPs	-2.57	2.55	-.07	.39	2.83	.01	-6.40**	1.93	-.22
Self-Care	-2.60	2.50	-.08	-1.25	2.98	-.04	-7.41**	2.16	-.22
Parental Care	-4.73*	1.91	-.20	-2.85	2.46	-.120	-7.77***	1.64	-.33
Combination of Care	1.14	3.09	.03	4.81	3.46	.12	-1.25	2.31	-.03
Mothers' Educational Levels (without high school diplomas)									
High School Diplomas	.20	2.00	.01	4.46	2.39	.19†	-.97	1.42	-.04
College Experience and above	-3.30	2.05	-.14	2.27	2.46	.10	1.51	1.74	.05
Mothers' marital Status (married)									
Separated/divorced/widowed	1.44	1.68	.06	1.82	2.44	.08	.97	1.51	.04
Never married	-1.13	2.53	-.03	1.00	2.28	.04	-1.63	1.55	-.06
Childcare cost subsidies (Yes)									
No	-.96	2.27	-.03	-.43	2.96	-.01	.39	1.96	.01
Community Level (Urban)									
Rural	-.62	1.66	-.02	-2.29	2.69	-.07	3.40	2.81	.07
R <sup>2</sup>		.07			.07			.11	
F		1.73†			1.17			3.78***	

Reference categories are in parentheses

SE = standard error,  $\beta$  = beta

† $p < .10$ , \* $p < .01$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Working months in the past 12 months by race/ethnicity.* Mothers' working months in the past 12 months was assessed by OLS regressions. This model contained four covariates (mothers' educational levels, marital status, childcare subsidies, and community levels) and independent variables. For White mothers, controlling for the covariates, the model explained 7.2% (R square) of the variance in White mothers' working months in the past 12 months and the model was marginally significant ( $F = 1.73, p = .061$ ). The results from Table 11 indicated that compared to White mothers using relative care, White mothers using self-care showed longer working months ( $B = 1.24, p = .060$ ). However, the estimate was only marginally significant. Second, White mothers with college experience and above showed shorter working months compared to White mothers without high school diplomas ( $B = -1.00, p = .065$ ). Third, White mothers with separated/divorced/widowed showed shorter working months than White married mothers ( $B = -.84, p = .06$ ). However, the estimate was marginally significant.

For African American mothers, the model explained 5.5% (R square) of the variance in African American mothers' working months in the past 12 months and it did not reach statistical significance ( $F = .89, p = .54$ ). The results from Table 11 indicated that there were no relationships between after-school childcare arrangements and mothers' working months.

For Hispanic/Latina mothers, the model explained 2.9% (R square) of the variance in the mothers' working months in the past 12 months and it did not reach statistically significant ( $F = .88, p = .56$ ). The results from Table 11 indicated that compared to Hispanic/Latina mothers using relative care, Hispanic/Latina mothers using parental care displayed shorter working months ( $B = -1.06, p = .039$ ), which was the same situation for working hours.

**Table 11. OLS Regression Estimates on Working Months in the past 12 Months by Race/Ethnicity**

Variables	White (n = 243)			African American (n = 165)			Latino (n = 309)		
	Unstandardized Coefficients		Standardized Coefficients	Unstandardized Coefficients		Standardized Coefficients	Unstandardized Coefficients		Standardized Coefficients
	<i>B</i>	<i>SE(B)</i>	$\beta$	<i>B</i>	<i>SE(B)</i>	$\beta$	<i>B</i>	<i>SE(B)</i>	$\beta$
After-School Childcare Arrangements (Relative Care)									
ASP	.60	.67	.07	.50	.89	.06	-.54	.60	-.06
Self-Care	1.24†	.66	.14	.10	.94	.01	.17	.67	.02
Parental Care	.09	.50	.01	-.52	.77	-.07	-1.06*	.51	-.15
Combination of Care	.65	.81	.06	1.07	1.09	.09	-.19	.72	-.02
Mothers' Educational Levels (without high school diplomas)									
High School Diplomas	-.01	.52	-.00	.17	.75	.02	.43	.44	.06
College Experience and above	-1.00†	.54	-.16	-.25	.77	-.04	.23	.54	.03
Mothers' marital Status (married)									
Separated/divorced/widowed	-.84†	.44	-.13	1.11	.77	.15	-.57	.47	-.08
Never married	.48	.66	.05	.91	.72	.13	-.02	.48	-.00
Childcare cost subsidies (Yes)									
No	-.05	.59	-.00	.36	.93	.03	.11	.61	.01
Community Level (Urban)									
Rural	-.59	.44	-.09	1.18	.84	.11	.54	.88	.04
R <sup>2</sup>		.07			.06			.03	
F		1.80†			.89			.88	

Reference categories are in parentheses

*SE* = standard error,  $\beta$  = beta

†*p* < .10, \**p* < .05

*Working mothers' regular job shift availability by race/ethnicity.* The relationship between childcare arrangements and working mothers' regular job shift availability was assessed by binary logistic regressions. This model contained four covariates (mothers' educational levels, marital status, childcare subsidies, and community levels) and independent variables. First, within the White group, the full model containing all predictors was not statistically significant,  $\chi^2(10, N = 243) = 8.36, p = .594$ . The model as a whole explained between 3.4% (Cox and Snell R square) and 5.2% (Nagelkerke R square) of the variance in the dependent variable. As shown in Table 12, first, the positive B value (.86) of mothers with college and above indicated that these mothers were more likely to have regular job shift availability than mothers without a high school degree. Also, the odds ratio indicated that mothers with college experience and above showed two times more likely to have regular job shift availability than mothers without high school diplomas ( $B = .86, OR = 2.37, p = .044$ ).

In the African American group, the full model including four covariates and independent variables was not statistically significant,  $\chi^2(10, N = 165) = 10.13, p = .429$ . The model as a whole explained 6% (Cox and Snell R square) and 8.9% (Nagelkerke R square) of the variance in the dependent variable. The results of Table 12 displayed that African American mothers' educational levels were marginally significant: the negative B value (-1.08) of the mothers with high school diplomas indicated that they were less likely to have a regular job shift availability compared to those without a high school degree. Also, the odds ratio indicated that African American mothers with high school diplomas were 66% less likely to have regular job shift availability than African American mothers without high school diplomas ( $B = -1.08, OR = .34, p = .046$ ).

In the Hispanic/Latino group, the full model containing independent and covariates was not statistically significant,  $\chi^2(10, N = 309) = 3.44, p = .969$ . This model as a whole explained between 1.1% (Cox and Snell R square) and 1.7% (Nagelkerke R square) of the variance in the dependent variable. The result of the Table 12 indicated there were no after-school childcare arrangements associated with Hispanic/Latina mothers' regular job shift availability. Overall, the relationship between after-school childcare arrangements and low-income mothers' regular job shift availability did not differ by race/ethnicity.

**Table 12. Logistic Regression Estimates on Regular Job Shift Availability by Race/Ethnicity**

Variables	White (n = 243)			African American (n = 165)			Hispanic/Latino (n = 309)		
	<i>B</i> ( <i>SE</i> )	Exp( <i>B</i> ) OR	95% CI	<i>B</i> ( <i>SE</i> )	Exp( <i>B</i> ) OR	95% CI	<i>B</i> ( <i>SE</i> )	Exp( <i>B</i> ) OR	95% CI
After-School Childcare Arrangements (Relative Care)									
ASP	.49(.55)	1.65	[.56, 4.76]	.38(.58)	1.47	[.47, 4.61]	-.09(.45)	.91	[.38, 2.21]
Self-Care	.79(.57)	2.20	[.73, 6.68]	.43(.64)	1.53	[.44, 5.30]	-.14(.50)	.87	[.33, 2.32]
Parental Care	.51(.39)	1.67	[.77, 3.61]	.55(.51)	1.73	[.64, 4.64]	-.11(.38)	.90	[.42, 1.89]
Combination of Care	.36(.65)	1.44	[.40, 5.11]	.65(.80)	1.92	[.43, 8.49]	.20(.58)	1.22	[.39, 3.80]
Mothers' educational levels (without high school diplomas)									
High school diplomas	.50(.40)	1.65	[.76, 3.59]	-1.08*(.54)	.34	[.12, 1.00]	.07(.33)	1.08	[.56, 2.07]
College and above	.86*(.43)	2.37	[1.03, 5.50]	-.30(.59)	.74	[.23, 2.34]	.07(.41)	1.07	[.48, 2.38]
Mothers' marital status (married)									
Separated/divorced/widowed	.25(.37)	1.29	[.63, 2.66]	-.45(.56)	.64	[.21, 1.89]	-.17(.35)	.84	[.43, 1.66]
Never married	-.08(.52)	.93	[.34, 2.54]	-.51(.52)	.60	[.22, 1.68]	.09(.37)	1.10	[.53, 2.28]
Childcare subsidies (Yes)									
No	.12(.49)	1.13	[.44, 2.93]	.54(.60)	1.71	[.53, 5.55]	.02(.47)	1.02	[.41, 2.56]
Community level (Urban)									
Rural	.02(.35)	1.02	[.51, 2.03]	-.32(.55)	.72	[.25, 2.13]	1.34(1.05)	3.83	[.49, 30.19]
-2LL		249.08			172.64			306.36	
<i>df</i>		10			10			10	

Reference categories are in parentheses

SE = standard error, OR = odds ratios

\**p* < .05

***Working mothers' job training/schools availability by race/ethnicity.*** The condition of working mothers' job training/schools availability was examined by binary logistic regressions. This model contained four covariates (mothers' educational levels, marital status, childcare subsidies, and community levels) and independent variables. First, within the White group, the model was statistically significant,  $\chi^2 (10, N = 243) = 19.68, p = .032$ . The model as a whole explained between 7.8% (Cox and Snell R square) and 15.5% (Nagelkerke R square) of the variance in the dependent variable. The result from Table 13 indicated that the positive B value (1.06) of White mothers with college and above displayed these mothers were more likely to have job training/schools availability than mothers without high school diplomas (reference group). In addition, the odds ratio indicated that White mothers with college and above were around three times more likely to have job training/schools availability than the mothers without high school diplomas ( $B = 1.06, OR = 2.89, p = .082$ ). However, the estimate was marginally significant.

In the African American group, the full model including four covariates and independent variables was not statistically significant,  $\chi^2 (10, N = 165) = 10.93, p = .363$ . The model as a whole explained 6.4% (Cox and Snell R square) and 10.7% (Nagelkerke R square) of the variance in the dependent variable. The result of Table 13 explained that after-school childcare arrangements were not associated with job training/schools availability.

In the Hispanic/Latino group, the full model including covariates and independent variables was statistically significant,  $\chi^2 (10, N = 309) = 22.91, p = .011$ . The model as a whole explained between 7.1% (Cox and Snell R square) and 17.8% (Nagelkerke R square) of the variance in the dependent variable. The results from Table 13 showed that first, mothers' educational levels were significantly associated with the dependent variable: the positive B value

(1.44) indicated that Hispanic/Latina mothers with college and above were more likely to have a job training/schools availability than the mothers without high school diplomas. In addition, the odds ratio indicated that Hispanic/Latina mothers with college and above were four times more likely to have a training/schools availability than Hispanic/Latina mothers without high school diplomas ( $B = 1.44$ ,  $OR = 4.20$ ,  $p = .015$ ). Second, the positive B value (1.41) of the community level indicated that Hispanic/Latina mothers living in rural areas were more likely to have a job training/school availability than the mothers in urban areas. Also, the odds ratio indicated that Hispanic/Latina mothers living in rural areas were four times more likely to have training/schools availability than the mothers living in urban areas ( $B = 1.41$ ,  $OR = 4.10$ ,  $p = .063$ ). However, the estimate was only marginally significant. In summary, the relationships between after-school childcare arrangements and low-income mothers' job training/schools availabilities did not differ by race/ethnicity. However, White mothers' and Hispanic/Latina mothers' higher educational levels (college and above) were associated with their job training/schools availabilities.

**Table 13. Logistic Regression Estimates on Job Training/Schools Availability by Race/Ethnicity**

Variables	White (n = 243)			African American (n = 165)			Hispanic/Latino (n = 309)		
	<i>B(SE)</i>	Exp( <i>B</i> ) OR	95%CI	<i>B(SE)</i>	Exp( <i>B</i> ) OR	95%CI	<i>B(SE)</i>	Exp( <i>B</i> ) OR	95%CI
After-School Childcare Arrangements (Relative Care)									
ASPs	.80(.62)	2.23	[.66, 7.57]	-.86(.72)	.42	[.10, 1.74]	-1.23(.84)	.29	[.06, 1.52]
Self-Care	-.47(.86)	.63	[.12, 3.36]	.31(.63)	1.36	[.39, 4.71]	.23(.65)	1.25	[.35, 4.51]
Parental Care	-.13(.57)	.88	[.29, 2.69]	-.63(.61)	.53	[.16, 1.74]	-.97(.65)	.38	[.11, 1.37]
Combination of Care	-.42(1.15)	.66	[.07, 6.24]	-1.49(1.14)	.23	[.02, 2.10]	-1.22(.90)	.30	[.05, 1.74]
Mothers' educational levels (without high school diplomas)									
High school diplomas	-.75(.75)	.31	[.11, 2.03]	-.14(.65)	.87	[.24, 3.12]	.48(.58)	1.62	[.52, 5.08]
College and above	1.06†(.61)	2.89	[.87, 9.56]	.89(.61)	2.44	[.74, 8.05]	1.44*(.59)	4.20	[1.32, 13.36]
Mothers' marital status (married)									
Separated/divorced/ widowed	.40(.48)	1.50	[.58, 3.85]	-.00(.59)	1.00	[.31, 3.17]	.62(.61)	1.87	[.56, 6.20]
Never married	.38(.77)	1.46	[.33, 6.59]	-.18(.58)	.84	[.27, 2.58]	.96(.63)	2.60	[.75, 9.00]
Childcare subsidies (Yes)									
No	-.18(.58)	.84	[.27, 2.61]	.39(.84)	1.48	[.29, 7.59]	-.80(.62)	.45	[.14, 1.51]
Community level (Urban)									
Rural	-.26(.55)	.77	[.26, 2.29]	-.58(.71)	.56	[.14, 2.26]	1.41+ (.76)	4.10	[.93, 18.07]
-2LL		149.85			139.36			135.75	
<i>df</i>		10			10			10	

Reference categories are in parentheses

*SE* = standard error, OR= odds ratios

†*p* < 1.0, \**p* < .05

## Summary of Results

The first hypothesis that indicates low-income children in ASPs would show better academic and behavioral outcomes than their counterparts in other after-school childcare arrangements, including relative, self-, parental, and some combination of care, was not supported. Children's reported academic scores were not impacted by any type of after-school childcare arrangements, after controlling for covariates. Children's schoolwork problems, however, did show variations based on types of childcare. However, as opposed to my hypothesis, fewer schoolwork problems were reported for children in relative and parental care than for children in ASPs. With regard to behavioral problems, once again, children in parental care displayed better outcomes than those who were in ASPs. The childcare arrangement was not related to whether a child was ever suspended, given detention, or expelled. These results failed to support the hypothesis that children in ASPs would display better behavioral outcomes than children in unstructured childcare arrangements.

The second hypothesis that indicates mothers' labor conditions would show more positive outcomes for relative care than for other types of childcare was partially supported by the study findings. First, working mothers using relative care showed longer working hours than those using ASPs, self-care, and parental care. Second, working mothers using relative care reported more working months than mothers using parental care. No significant relationships were found between childcare arrangements and regular job shift or job training/school availabilities.

The third hypothesis that ethnic-minority mothers (African American, Hispanic/Latina) using relative care would have additional positive labor conditions compared to White mothers was partially supported. With respect to working hours, both White and Hispanic/Latina mothers

using relative care reported longer working hours than same ethnicity mothers using ASPs, self-care, and parental care, and Hispanic/Latina mothers (but not White mothers) also reported more working months. However, no significant link was found between African American working mothers' childcare arrangements and labor conditions, and not significant associations were found between relative care and either regular job shift or job training/schools availabilities for any race/ethnicity.

## **CHAPTER 5**

### **DISCUSSION**

The current study is one of the first empirical investigations to examine the relationships between different types of after-school childcare and the academic and behavioral outcomes of low-income children using nationally representative data. Little attention has been paid in existing literature to the comparative outcomes of different types of after-school childcare and only ASPs have been substantially studied. This study also examined the associations between different types of after-school childcare and low-income working mothers' labor conditions, including working hours, working months, and availability for regular job shift and job training/schools as well as how race/ethnicity moderated this relationship. This is an important contribution because few studies have attempted to understand the working conditions of ethnic-minority working mothers in different types of childcare in comparison to White mothers. In this chapter, I present and discuss the major findings for each of the three research questions.

#### **Main Findings**

##### **Developmental Outcomes of Low-Income Children**

Although no relationship was shown between after-school childcare arrangements and low-income children's academic scores, a relationship was found between childcare arrangements and whether children had schoolwork problems or not. Surprisingly, children in unstructured childcare arrangements—relative and parental care—showed better schoolwork performance than children in ASPs. This finding did not support the hypothesis that children would benefit academically from structured ASPs. A number of studies of specific ASPs have demonstrated both high quality instruction and benefits for participations (Birmingham et al., 2005; Brecher et al., 2009; Carter et al., 2006; Lauer et al., 2006; Little et al., 2007; Mahoney &

Cairns, 1997; Posner & Vandell, 1994; Reisner et al., 2001; Weiss & Nicholaon, 1998), and both model of learning theory and social cognitive theory suggest that structured ASPs lead to children's cognitive and behavioral development. In addition, Vandell and Corasaniti's (1988) study found that ASPs were associated with greater academic improvement than parental, relative, and self-care. However, this study outcome showed opposite findings.

This study also showed positive outcomes of children with parental care than those from ASPs in terms of indicators of behavioral problems. The study's hypothesis that the structured nature of ASPs would lead to positive behavioral outcomes was not supported. The hypothesis that ASPs would support positive behavioral outcomes was based on research showing that structured ASPs can provide proper interventions and instructions in educational arrangements (Perry, 1996). However, the existing empirical research shows mixed results in comparisons of the impact of ASPs and parental care on children's behavioral outcomes. As mentioned in the literature review, while Vandell and Corasaniti (1988) found that ASPs were more helpful for participants' behavioral areas than parental care, Howie (1996) showed that there were no differences between ASPs and parental care in improving children's behavioral outcomes, all of which were different from this study outcome.

One possible explanation for these findings is the highly variable quality of ASPs. As aforementioned, numerous studies have revealed the effectiveness of ASPs to improve developmental domains of low-income children. However, these studies emphasized the importance of structured, high quality ASPs, including staff qualification (experienced staff, trained instructors), parental and community supports, and supervised and constructive activities, such as sports, technology, and arts (Little et al., 2007; Riggs & Greenburg, 2004), and participation engagement (Mahoney, Lord, & Carryl, 2005). As previous findings have indicated,

children from low SES households and single parent households are more likely to be involved in lower quality ASPs with less experienced staff (Little et al., 2008), which in turn leads to children's lower academic achievement (Fashola, 1998). This study outcome draws attention to examine whether ASPs in low-income communities is properly structured and whether ASPs are well implemented. The second possible explanation for the positive effectiveness of APSs found in previous research is that research usually done on ASPs have specific purpose and that have programs designed by specialists rather than examining general ASPs.<sup>17</sup> In other words, this research can only show that it is possible for ASPs to reach a high standard of excellence but these show nothing about the overall quality of most ASPs, particularly those in economically disadvantaged areas.

The second interesting finding is related to relative care. There have been few recent studies that have attempted to explore the characteristics and impact of relative care as to low-income children's outcomes. This finding contradicted the findings from the study of Kontos, Howes, Shinn, and Galinsky (1997) that expected that grandmothers are more likely to let children watch television and provide a lack of learning activities, showing the lack of caregiver's responsibility for children. Instead, this study's finding that relative care is positively correlated with better outcomes, especially in the area of schoolwork, suggests that relative care can play a positive role in children's academic outcomes. Relatives' (grandparents, older siblings, uncles, aunts, and anyone related to children) responsibilities and their bond in cultural and structural family arrangements (Uttal, 1999) would play an essential role in children's

---

<sup>17</sup> The examples of the specific ASPs are: Evaluations of the school-based TASC programs (2001), Foundations, INC (2002), the national evaluation of the 21<sup>st</sup> Century Communities Learning Center (CCLC) Programs, and the Study of Promising Afterschool Programs at the University of California, Irvine and the University of Wisconsin-Madison and Policy Studies Associates, Inc.

behavioral developmental outcomes. In addition, relative care is more likely to be associated with a low caregiver-child ratio (e.g., 1:2, 1:3 or 1:5) and small group size interaction, which may be more likely to yield positive academic outcomes (Schwartz, Schmitt, & Lose, 2012).

### **Mothers' Labor Conditions**

This study outcome revealed that low-income mothers using relative care had longer working hours than mothers using ASPs, self-care, and parental care (including spouse care). In particular, mothers using parental care had much shorter working hours and fewer working months than the mothers using relative care, which implied that parental care showed less flexibility than relative care. This finding can be understandable in the dominant ideology of motherhood, which working mothers using parental care would have shorter working hours except in families in which the father is the primary caregiver. Additionally, the study outcome supports the benefit of using relative care for low-income mothers to extend their working hours. This study finding also supports the existing information in which low-income families are more likely to choose parental care (spouse care) (36%) and relative care (26.2%) over ASPs (17.1%). However, the choice was also expected because low-income families struggle to find affordable ASPs (center-based care) in their neighborhoods (Christensen et al., 2011; Ribar, 1992), and the quality of childcare arrangements in many low-SES neighborhoods is poor (Anderson, Ramsburg & Scott, 2003). Therefore, low-income mothers rely on reciprocal assistance from close family members as major resource to maintain their work and childcare (Edin & Lein, 1997). This study supports the idea that informal childcare has a positive effect on labor supply (weeks/hours of work) and the probability of mothers working (Han, 1998). Finally, since childcare costs are the major reason why working mothers give up their work (Roll, 2010), non-paid utilization (relative care) would help these mothers maintain their employment. Furthermore, this research revealed

that the choice of childcare was not associated with the availability of regular job shifts and job training/schools. This finding is comparable to the findings of Roll (2010), which indicated that extended working hours are irrelevant to the chances of mothers' enrollment in school. In this study, the lack of association between choice of childcare and availability for regular job shifts and training/schools may be because the families included in this study were so poor that they could find neither economic resources nor affordable job training/schools in their communities.

### **Ethnic-Minority Mothers' Labor Conditions**

The study outcomes on the relationships between childcare arrangements and mothers' labor conditions by race/ethnicity support the findings from previous studies that Hispanic/Latina mothers were more likely to use relative care (24.3%) (extended family members, neighborhood care) than center-based ASPs (17.5%) (Arendell, 2000; Fuller, Holloway, Rambaous, & Eggers-Pierola, 1996; Radey & Brewster 2007). On the other hand, this study finding did not support the hypothesis that Hispanic/Latina mothers and African American mothers will more likely to use relative care than White mothers. Based on the study outcome, conversely, White mothers used relative care (26.3%) to a greater degree than both Hispanic/Latina mothers (24.3%) and African American mothers (23.6%). According to maternal deviancy, unlike middle class White mothers, historically, ethnic-minority mothers (African American and Hispanic/Latina) have been working outside home in order to economically support their families (Glenn et al., 1994). It has been natural for them to delegate childrearing to their relatives who used to share the responsibilities of childrearing with other women in the home and in the same ethnic community (Glenn et al., 1994). For minority women, mothering and caring are not individually distributed but viewed instead as a collaborative work that other extended family members (in particular, women) should share together (Glenn et al., 1994). Women of color perceive the situation of

arranging the relative care, asking for childcare help to relatives (especially their mothers) as what is supposed to happen (Uttal, 1999). However, the results of this study suggest that economic necessity may have as much influence as cultural background in low income mothers' selection of childcare settings. Speculation of this finding is that because the mothers in the data set were all economically disadvantaged, a financial reason will come first when they have options to select childcare settings.

This study's finding that there was no relation between the use of relative care and job conditions for African American mothers did not support the hypothesis that ethnic minority (Hispanic and African American) mothers would experience greater benefits from relative care than from other care types. This suggests a need for further investigation of the impact of childcare availability and childcare options on the job conditions of African American working mothers.

The research finding of the positive association between relative care and Hispanic/Latina mothers' working hours partially support the hypothesis that prompt and imminent assistance from extended family members in extended community networks has proven to be effective. This further explains even though both relative care and parental care are considered extended family care, relative care is a more helpful resource for Hispanic/Latina mothers than parental care (including spouse care). Also this study's finding of a positive association between relative care and Hispanic/Latina mothers' working hours can be interpreted in light of Uttal's (1999) findings. Uttal found that the Latina mothers in his study considered relative care the best choice and felt that asking relatives for childcare is an appropriate and acceptable practice.

This study found that White mothers using relative care also showed longer working hours than those using parental care. This outcome was inconsistent with my hypothesis that Hispanic/Latina and African American working mothers would have more positive relationship with relative care than White working mothers using relative care. This hypothesis was based on Uttal's (1999) finding that the White mothers in his study were unwilling to accept the idea of employing relative care, in particular their parents, on a long-term regular basis and viewed relative care as temporary. The White mothers reported that they did not want to be accustomed to relatives' help and were not comfortable with the idea of their mothers taking care of their children because that they saw that help as uncomfortable degree of indebtedness that would need to be repaid (Uttal 1999). Uttal's findings suggest that White mothers may switch from relative care to ASPs as soon as circumstances allow. However, my outcome can be supported by the category "working mothers" from maternal deviancy, which suggests that low-income mothers rely significantly on their family members (Varuhas et al., 2003). Furthermore, poor White mothers need to ask for relative care especially considering that they are likely to live in poor and high-risk neighborhoods with limited resources (e.g., transportation, a lack of good childcare settings) (Gilmore-Barnes, 2006). This situation implies that when it comes to childcare choices, more economic similarities and fewer cultural differences were detected from low-income working mothers.

However, the finding of the associations between relative care and labor conditions among White mothers needs more investigations. Even though White working mothers of children using relative care showed longer working hours per week than mothers of children using parental care, they did not show a greater number of months worked. White mothers of children using self-care (children take care of themselves) showed longer working hours (i.e.,

working months) than relative care. This implies that there must be certain time constraints in relative care for White families when asking for permanent childcare, which is opposite to the case of Hispanic/Latina mothers. Additionally, this result illustrates that not all relative care shows flexibility or duration for working mothers.

My hypothesis that relative care would positively link to working mothers' regular job shift and training/schools availabilities was not supported. This study is not able to bolster studies of Collins (2000) and Day (2012) that the flexibility of relative care will lead to the availabilities of regular job shift and training/schools. As mentioned earlier, this may be because the mothers in this study were so economically disadvantaged that they could find neither economic resources nor affordable training/schools in their communities. In addition, working poor mothers in data set would be more likely to have part-time jobs than regular shift jobs, which did not make these mothers see the important relationship between childcare settings and the availability of regular job shift.

However, interestingly, working mothers having higher educational levels (especially, college and above) was significantly and positively associated with their job training/schools availabilities. In specific, both White and Hispanic/Latina mothers with college and above showed higher of job training/schools availabilities than those without high school diplomas. In addition, White mothers with college above once again showed a positive association with the regular job shift availability than White mothers without high school diplomas. These two indicators might lead to the specification that higher educational levels would relate to low-income working mothers' training/school availabilities more than childcare arrangement.

This study's finding that low-income mothers (including White mothers) and low-income ethnic-minority mothers (only Hispanic/Latina mothers) were more likely to use relative care partially buttresses the previous studies (Early & Burchinal, 2001) that low-income parents and parents of color decide to choose family-based or relative care over inflexible formal childcare arrangements (e.g., ASPs). In addition, even though there has been substantial evidence that ethnic-minority working mothers employ more relative care than structured center-care, there have been few studies discovering whether, how, and to what extent relative care helps these mothers improve labor factors including labor conditions and economic efficiency. Therefore, the study outcomes shed light on positive outcomes of relative care on Hispanic/Latina mothers' working hours which can lead to households' economic well-being through extending their working hours. At the same time, this study gives implications that studies to look for different reasons of selecting relative care for Hispanic/Latina and African American working mothers and the associations between the relative care and these mothers' labor conditions should be more carefully examined in order to comprehend the distinctive mechanism between relative care and these different ethnic-minority mothers.

### **Limitations**

There are six primary limitations in the current study. First, this study is not an experimental research, and it is impossible to control all possible covariates (such as school environment, siblings) that can affect the relationship between independent variables and dependent variables; and furthermore, the data is cross-sectional, collecting information at only one time for about three months (from January 3 through April 24, 2005). Therefore, the causal relationships between independent and dependent variables cannot be determined. Second, the household annual income was measured within specific categories, not actual amount of income.

Therefore, the selection of low-income is based partly on estimation. Third, the data set did not include variables to measure children's overall development in academic, behavioral, physical, or emotional areas; therefore, it is difficult to examine how after-school arrangements influence children's other developmental areas. Fourth, since there were no variables in the data set asking about the direct reasons for choosing childcare arrangements, it is hard to examine the rationales for the selection, such as flexibilities, and cultural/historical backgrounds (the level of acceptance). Fifth, there were no variables to assess the quality of childcare arrangements, including the ratio of instructors to students, the list of outdoor and indoor activities, the quality of instructors, and the partnerships with communities and parents. Therefore, it is difficult to investigate how children in different types of care spend their time and how instructors/providers interact with them. Finally, the data file NHES: ASPA question, asking about mothers' working months in the past ("In the past 12 months, how many months [have you/has she] worked for pay or income?"), does not allow researchers and policy-makers to find the advantage of childcare settings that produce the longer effect (number of years) of maternal employment.

Despite these limitations, this was the one of the first studies to examine the ASPs and other different types of after-school childcare arrangements using a nationally representative data set. It also examined different labor conditions of low-income working mothers in these different types of care. The research findings could lead scholars to draw special attention to relative care and other unstructured cares, which has been a peripheral subject of childcare issues in the U.S.

## **Implications**

### **Practice Implications**

The study findings showed that the older the children, the lower their academic scores and the more behavioral problems they had. A lack of variety and inappropriate activities in the

ASPs might causes parents to hesitate to send their children, in particular older children, to those programs. Most preteens in the program feel unsatisfied with the activities presented as they have lost interest in activities that are targeted at younger elementary school children (Christensen et al., 2011). Therefore, public school social workers who are in charge of ASPs and educators should consider the age variation of participants and design age appropriate and interesting activities for children in the specific age group (Christensen et al., 2011).

The study findings indicate that childcare assistance from relatives or neighbors is helpful for both children's schoolwork behaviors and their employed mothers' working hours. These findings indicate that social workers need to help low-income families who receive social support from networks (including relatives, neighborhoods) maintain these assistances as crucial resources not only for their children's development and safety, but also for the needs of working parents (Kirst-Ashman, 2010). For the social work practice at the micro-level, it is important to support these relatives or neighbors through providing them with educational materials, instructions on how to educate children and information of child abuse and neglect. In particular, as described in prior studies, a majority of low-income families live in rural areas or poor communities which have limited community or government resources (Christensen et al., 2001; Coleman, 1988). At the mezzo-level social work practice, social workers need to help them find available community resources (e.g., childcare service, welfare agencies) in close proximity, which is very crucial for these families. Mezzo practice social workers also can help them find access and use these types of supports that surround them for making ends meet through diligently searching for service information, local and public agencies, churches, and informal support system (relatives, neighbors) (Kirst-Ashman, 2010; Roll, 2010). And at the macro practice level, social workers also can help low-income communities, formal childcare

arrangements, ASPs, and public agencies with increasing their revenue system through seeking formal (government) and informal (organization, charity activity) funds and budgets to better implement their services and programs for low-income families (Jansson, 2016).

The findings of fewer positive benefits of ASPs may indicate the need to improve the quality of these programs in low-income communities. It is more accessible for social workers, educators, or government inspectors to examine that of ASPs and formal childcare arrangements and provide interventions accordingly. Hence, school social workers and educators specialized in child development should train childcare providers and after-school programs' instructors on a regular basis to update their knowledge and skills of how to supervise and instruct participants (Gilmore-Barnes, 2006).

### **Policy Implications**

The study findings suggest that it is necessary to improve the quality of ASPs to meet the educational and behavioral needs for low-income children. The research results indicate that ASPs may have little benefit beyond reducing the chances of engaging in risk-taking and anti-social behaviors. In addition, the study findings showed that there were no positive outcomes for working conditions for low-income working mothers using ASPs. The lower-quality of ASPs in low-income communities may help explain this finding. Hence, offering financial assistance to public schools and low-income communities to improve the quality of ASPs is essential to improving children's developmental outcomes. At the same time, increasing the number of high quality ASPs in economically disadvantaged communities is crucial, especially for low-income families who are not able to find imminent relatives in their proximity. Overall, increasing the quantity and improving the quality of ASPs would not only benefit economically disadvantaged

children in poor environments, but also hopefully help low-income working mothers spend their saved time at their work places with less worries about children's safety and development.

Secondly, many poor working families, in particular ethnic-minority families rely on extended families to take care of their children while they are working (Arendell, 2000). In order to support these adult caregivers who spend as much time with their children in their care as teachers in after-school programs, policy-makers should provide financial assistance to these types of care arrangements. The research finding indicate that children in relative care (including neighborhood care) display better schoolwork behaviors than children in ASPs and this may imply that relatives do their best to take care of their children and spend a great deal of time assisting children's development. In addition, the finding that relative care positively affects White and Hispanic/Latina mothers' working hours implies that relative care has potential benefit to increase these mothers' labor supply, which is the "total hours that workers wish to work at a given real wage rate" (Powell, 2002). Hence, their effort and time should be rewarded as much as childcare providers or instructors in center-based care or after-school programs. In particular, considering the discussion in the literature, wage subsidies targeting childcare subsidies (also unconditional childcare subsidies) can be applicable to both formal (ASPs) and informal (relative care) childcare settings (Powell, 2002).

Finally, even though previous studies found that mothers in poor rural areas had increased the usage of relative care because of a lack of structured childcare settings in these areas (Christensen et al., 2010; Edin & Lein, 1997; Gilmore-Barnes, 2006), this study was not able to find any significant association between participants' location of residence (rural or urban area) and the frequency of using relative care and ASPs. Given the available information from the data set, it is difficult to explain this inconsistent finding. This study finding may suggest that

it is important to further investigate the needs of structured ASPs in both rural and urban low-income areas. In addition, even though prior literature reviews revealed there was a significant relationship between childcare subsidies and low-income mothers' positive employment conditions (Anderson & Lavine, 1999; Machalopoulous & Robinson, 2000), my study results showed that there was no such association. Further analysis indicated that the percentage of recipients given the subsidy in this study was only 12%, which may help explain the lack of association in this study. It may suggest that policy-makers need to investigate whether available childcare subsidies are sufficient to meet the childcare needs of low-income families.

### **Research Implications**

There are several limitations of this study, which may help point out future research directions. As mentioned, this study is not experimental research. In order to more rigorously evaluate the impact of childcare type and how quality of ASPs influences child outcomes, two methodologies can be employed in future studies (Riggs & Greenberg, 2004): The first one is randomized controlled trial (RCT: Cook & Campbell as cited in Riggs & Greenberg, 2004). This is referred to as the “gold standard” or “evidence-based” methods for the programs evaluation. In order to implement this evaluation model, children need to be randomly selected into two (experimental versus control)<sup>18</sup> groups (Riggs & Greenberg, 2004). Through randomly selecting participants, researchers are able to better control for other variables that can influence participants' developmental domains. In order to further investigate different levels or characteristics of the program, this design can also randomly assign children into different

---

<sup>18</sup> An experimental group includes children in ASPs; a control group includes children who are not enrolled in ASPs.

programs with different levels of staff training, curriculum, rates of attendances, and so forth (Riggs & Greenberg, 2004).

The second rigorous evaluation model is quasi-experimental designs. This technique can be employed when random assignment is not possible. There are many circumstances that researchers are not able to determine which participants are assigned to ASPs. For the situations, this design is useful considering the voluntary nature of ASPs and the practical issues of the research design through making two groups—experimental and comparison groups<sup>19</sup> as equivalent as possible (Riggs & Greenberg, 2004; Rubin & Babbie, 2013).

The third suggested methodology is a qualitative research using participant interviews about choice of childcare and mother and child outcomes. Qualitative research allows research participants to describe their perspectives and feelings, which would be critical to understanding the mechanisms of how ASPs, relative care, and other types of childcare impact on child outcomes. Also directly observing participants in the settings will help understand how the childcare settings affect participants. Therefore, the qualitative method helps understand the context of ASPs, relative care, and other childcare arrangements and how they influence child outcomes (Marshall & Grossman, 1994). This method would also help understand the different outcomes of Hispanic/Latina mothers and African American working mothers' labor conditions. Even though it was hypothesized that cultural and historical uniqueness of ethnic-minority (Hispanic/Latina and African American) mothers would lead to the positive association between relative care and their labor conditions, the study results only showed the relationship among

---

<sup>19</sup> The comparison group is used instead of control group because participants since the comparison group are not assigned randomly (Rubin & Babbie, 2016).

Hispanic/Latina mothers. The qualitative study will help understand why such differences occurred. Furthermore, this method will assist in understanding why White mothers using relative care showed only the positive outcomes of short-term period of working hours per week rather than long-term period of working months. Additionally, qualitative research would be very helpful in understanding and how relative care differently affects low-income Hispanic/Latina and White mothers. As discovered in the study, low-income Hispanic/Latina working mothers were less likely to use relative care than low-income White mothers. However, the research outcome revealed that Hispanic mothers gained more positive impacts (short- and long-term working time spent) than White mothers from relative care (only short-term working time spent). In order to understand why Hispanic/Latina mothers are more likely to gain such benefits than White mothers, empirical studies collecting primary data and designing a qualitative method (i.e., mixed method) are essential. In particular, the primary data set should include reasons for selecting relative care and interactions between relatives and these mothers' labor conditions and development in this type of care.

The study findings also have important implications for theoretical development in this area. Although the two theories, mothering and motherhood ideology and maternal deviancy elaborated the different roles of mothering by mothers' race/ethnicity, especially middle class White mothers versus African American and Hispanic/Latina mothers, the study findings did not support these assumptions. Most of all, understanding the use of extended family members for childcare as a primarily socio-cultural (rather than economic) phenomenon seems not to appropriately explain the experience of poor working mothers whose primary purpose is to make reasonable and practical choices that promote their family's survival. This study found more positive outcomes than expected among low-income White mothers using relative care and

found unexpected difference in outcomes for African American and Hispanic/Latina mothers using relative care. The theories of mothering ideology and maternal deviancy characteristically dichotomize White middle class mothers and ethnic-minority (African American, Hispanic/Latina) working class mothers and therefore do not effectively account for similarities across ethnic groups within the population of low-income mothers or for differences among ethnic minority mothers of different backgrounds (such as Hispanic and African American). Recognizing the limitations of these theories, this study findings suggest the theory development identifying the characteristics of low-income White mothers using relative care and the distinctive characteristics and background of African American and Hispanic/Latina mothers using relative care instead of merging them into one category of “ethnic/minority mothers.” On the other hand, the research findings could be evidence that in order to understand the childcare choices by different racial/ethnic people (including White), it would be better to study the importance of economic interests of these families rather than focusing on more detailed historical and cultural uniqueness of these people.

While there have been well-developed theories identifying the benefits of structured ASPs on developmental outcomes of disadvantaged children, there is need of theoretical development that could help explain how relative care and other unstructured care impact children’s developmental outcomes. A majority of studies of the impact of childcare on child development have focused on ASPs with little attention to other types of arrangements (e.g., relative and parental care), and much of this research has been done in the context of assessing the outcomes of ASPs designed as experimental interventions to address specific social, developmental, or behavioral concerns rather than for the purpose of investigating the impact of choice of childcare arrangement on children’s and mothers’ outcomes in naturalistic settings.

Consequently, there is a paucity of research explaining the characteristics of the other types of childcare settings and their impact on children's developmental domains.

Finally, in order to offset the shortcoming of the data file NHES: ASPA, which asked mothers' working months in the past ("In the past 12 months, how many months [have you/has she] worked for pay or income?"), designing the survey question such as asking "how many years have you worked since the birth of your child?" or "how many months have you worked since the birth of your first child? would offer more clear clues of understanding social phenomena (childcare settings) and participants' employment conditions (longer-term effects).

## REFERENCES

- Anderson, P. M., & Levine, P. B. (1999). *Child care and mothers' employment decisions* (Working Paper 7058). Cambridge, MA: National Bureau of Economic Research. Retrieved from [http://www.nber.org/papers/w7058.pdf?new\\_window=1](http://www.nber.org/papers/w7058.pdf?new_window=1)
- Anderson, S., Ramsburg, D., & Rothbaum, B. (2003). *Illinois study of license-exempt care: Interim report*. Washington, DC: U. S. Department of Health and Human Services. Administration on Children, Youth, and Families, Child Care Bureau. Retrieved from <http://www.researchconnections.org/childcare/resources/2969>
- Arendell, T. (1999). *Hegemonic motherhood: Deviancy discourses and employed mothers' accounts of out-of-school time issues* (Working Paper: No. 9). Retrieved from <https://workfamily.sas.upenn.edu/sites/workfamily.sas.upenn.edu/files/imported/new/berkeley/papers/9.pdf>
- Arendell, T. (2000). Conceiving and investigating motherhood: The decade's scholarship. *Journal of Marriage and the Family*, 62, 1192-1207.
- Asendorpf, J. B. (1996). Social development. In Corte, E. D., & Weinert, F. E. (Eds.), *International Encyclopedia of Developmental and Instructional Psychology* (pp. 217-222). New York: Elsevier Science Inc.
- Berger, M. C., & Black, D. A. (1992). Child care subsidies, quality of care, and the labor supply of low-income, single mothers. *The Review of Economics and Statistics*, 74(4), 635-642.
- Birmingham, J., Pechman, E. M., Russell, C. A., & Mielke, M. (2005). *Shared features of high-performing after-school programs: A follow-up to the TASC evaluation*. Washington, DC: Policy Studies Associates.
- Blau, D. M., & Robins, P. K. (1998). Child-care costs and family labor supply. *The Review of Economics and Statistics*, 70(3), 374-381.
- Brecher, C., Brazill, C., Weitzman, B. C., & Silver, D. (2009). Understanding the political

- context of “new” policy issues: The use of the advocacy coalition framework in the case of expanded after-school programs. *Journal of Public Administration Research & Theory*, 20(2), 335- 355.
- Bureau of Labor Statistics (2007). *Table 2. Families by presence and relationship of employed members and family type, 2005-06 annual averages*. Retrieved from <http://www.bls.gov/news.release/famee.t02.html>.
- Bureau of Labor Statistics (2012). *Employment characteristics of family 2011*. Retrieved from [www.bls.gov/news.release/famee.nr0.htm](http://www.bls.gov/news.release/famee.nr0.htm)
- Burns, R. B. (1996). Models of learning. In Corte, E. D., & Weinert, F. E. (Eds.), *International Encyclopedia of Developmental and Instructional Psychology* (pp.331-333). New York: Elsevier Science Inc.
- Cahan, S. & Cohen, N. (1989). Age versus schooling effects on intelligence development. *Child Development*, 60, 1239-1249.
- Campbell, F. A., Ramey, C. T., Pungello, E., Sparlin, J., & Miller-Johnson, S. (2002). Early childhood education: Young adult outcomes from the Abecedarian Project. *Applied Developmental Science*, 6, 42-57.
- Catanta, K. J. H. (2005). *A comparative study of after school programs in Eresno County: Search for factors related to high effectiveness* (Doctoral dissertation). Retrieved from Proquest Digital Database.
- Carter, S. L., Straits, K. J. E., & Hall, M. (2006). *Project venture: Evaluation of a positive, culture-based approach to substance abuse prevention with American Indian youth*. Paper presented at the Symposium for Experiential Education Research, St. Paul, NM.
- Carver, P. R., Iruka, I. U., & Chapman, C. (May 2006). *After-school programs and activities: 2005*. Retrieved from U.S. Department of Education, National Household Education Surveys Programs of 2005 website: [http://nces.ed.gov/nhes/pdf/userman/NHES\\_2005\\_Vol\\_I.pdf](http://nces.ed.gov/nhes/pdf/userman/NHES_2005_Vol_I.pdf)

- Casserly, M. (2004). *Beating the odds IV: A city-by-city analysis of student performances and achievement gaps on state assessments, results from the 2002-2003 school year*. Washington, DC: Council on Great Schools.
- Caughy, M. O., DiPietro, J.A., & Strobino, D.M. (1994). Day-care participation as a protective factor in the cognitive development of low-income children. *Child Development, 54*, 457-471.
- Christensen, K., Schneider, B., & Butler D. (2011). Families with school-age children. *Journal Issue: Work and Family, 21(2)*, 69-90.
- Chung, A.-M. (Jun 2000). After-school program: Keeping children safe and smart (ED 438 395). Department of Education, Washington, DC. Retrieved from <http://files.eric.ed.gov/fulltext/ED438395.pdf>
- Clutter, A. W., & Nieto, R. D. (2015). *Understanding the Hispanic culture*. Retrieve from the Ohio State University website: <http://ohioline.osu.edu/hyg-fact/5000/5237.html>.
- Colby, S. (2012). *Income-based differences in employed women's use of non-maternal childcare* (Doctoral Dissertation). Retrieved from Proquest Digital Database.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology, 94*, 95-120.
- Collins, P. H. (2000). *Black feminist thought: Knowledge, consciousness, and the politics of empowerment* (2<sup>nd</sup> ed.). New York: Routledge.
- Committee on Community-Level Programs for Youth. (2000). *After-school programs to promote child and adolescent development: Summary of a workshop*. Washington, DC: National Academy Press.
- Cross, A. B., Gottfredson, D. C., Wilson, D. M., Rorie, M., & Connell, N. (2010). Implementation quality and positive experiences in after-school programs. *American Journal of Community Psychology, 45*, 370-380.
- Crouter, A. C. (1994). Processes linking families and work: Implications for behavior and development

- in both settings. In Parke, R. D., & Kellam, S. G. (Eds.), *Exploring Family Relationships with Other Social Contexts* (pp. 9-28). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Day, B. (2012). *Stay-at-home moms forced back to work and doing well : Helping and hindering factors* (Master's Thesis). Retrieved from Proquest Digital Database.
- Diamond, J. M., Kataria, S., & Messer, S. C. (1989). Latchkey children: A pilot study investigating behavior and academic achievement. *Child & Youth Care Quarterly*, 18, 131-140.
- Durlak, R., & Weissberg, R. (2007). *The impact of after-school programs that promote personal and social skills*. Chicago: CASEL.
- Early, D. M., & Burchinal, M. R. (2001). Early childhood care: relations with family characteristics and preferred care characteristics. *Early Childhood Research Quarterly*, 16, 475-497.
- Edin, K., & Lein, L. (1997). *Making ends meet: How single mothers survive welfare and low-wage work*. New York: Russell Sage Foundation.
- Fashola, O. S. (1998). *Review of extended-day and after-school programs and their effectiveness* (Report No. 24). Baltimore, MD: Center for Research on the Education of Students Places at Risk. Retrieved from <http://www.csos.jhu.edu/CRESPEAR/techReports/Report24.pdf>
- Fashola, O. S. (2002). *Building effective afterschool programs*. Thousand Oaks, CA: Crownin Press, Inc.
- Fuller, B., Holloway, S., Rambaud, M., & Eggers-Pierola, C. (1996). How do mothers choose child care? Alternative cultural models in poor neighborhoods. *Sociology of Education*, 69, 83-104.
- Gifford, S. A. (2001). *Effects of after-school programs on the relationships among emotional regulation, behavior regulation, and social competence* (Doctoral Dissertation). Retrieved from Proquest Digital Database.
- Gilmore-Barnes, T. (2006). *Working parents' need for home-based family childcare services in Delaware County, New York State* (Master's Thesis). Retrieved from Proquest Digital Database.

- Glenn, E. N. (2010). *Forced to care: Coercion and caregiving in America*. Cambridge, MA: Harvard University Press.
- Glenn, E. N., Chang, G., & Forcey, L. R. (1994). *Mothering: Ideology, experience, and agency*. New York, NY: Taylor & Francis Group.
- Goldschmidt, P., Huang, D., & Chinen, M. (2007). *The long-term effects of after-school programming on educational adjustment and juvenile crime: A study of the LA's BEST after-school program*. LA: UCLA/CRESST.
- Gonzalez-Barrera, A. (2013). *A demographic portrait of Mexican-Origin Hispanics in the United States*. Retrieved from Pew Research Center website: <http://www.pewhispanic.org/2013/05/01/a-demographic-portrait-of-mexican-origin-hispanics-in-the-united-states/>
- Goyette-Ewing, M. (2000). Children's after school arrangements: A study of self-care and developmental outcomes. *Journal of Prevention & Intervention in the Community*, 20, 55-76.
- Hagedorn, M., Montaquila, J., Carver, K, O'Donnell, K., & Chapman, C. (May 2006). *National household education surveys program of 2005: Study overview and methodology*. Retrieved from <http://nces.ed.gov/nhes/>
- Hagekull, B., & Bohlin, G. (1995). Day care quality, family and children characteristics and socioemotional development. *Early Childhood Research Quarterly*, 10, 505-526.
- Han, W-J. (1998). *The effects of child care on women's employment and child care utilization* (Doctoral Dissertation). Retrieved from Proquest Digital Database.
- Haney, T. J. (2009). *Off to the (labor) market: Women, work, and welfare reform in 21<sup>st</sup> century American cities* (Doctoral Dissertation). Retrieved from Proquest Digital Database.
- Hochschild, A. & Machung, A. (1990). *The second shift*. New York: Avon Books.
- Howie, P. M. (1996). After-school care arrangements and maternal employment: A study of the effects on third and fourth grade children. *Child & Youth Care Forum*, 25(1), 29-40.
- Immervoll, H., & Barber, D. (2006). *Can parents afford to work? Childcare costs, tax-benefit policies and work incentives* (Discussion Paper No. 1932). Retrieved from

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=878665##](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=878665##)

Intercultural Center for Research in Education & National Institute on Out-of-School Time.

(2005). *Pathways to success for youth: What works in afterschool: A report of the Massachusetts Afterschool Research Study (MARS)*. Boston: United Way of Massachusetts Bay.

Jansson, B. S. (2015). *Social welfare policy and advocacy: Advancing social justice through 8 policy sectors*. CA: SAGE Publications, Inc.

Johnson, E. M. (2000). *The child care and employment decision-making processes of expecting parents* (Doctoral Dissertation). Retrieved from Proquest Digital Database.

Kirst-Ashman, K. (2010). Social work & social welfare: Critical thinking perspectives (2<sup>nd</sup> ed.). *Practice settings* (pp.111-139). Belmont, CA: Brooks/Cole, Cengage Learning.

Kontos, S., Howes, C., Shinn, M., & Galinsky, E. (1997). Children's experiences in family child care and relative care as a function of family income and ethnicity. *Merrill-palmer Quarterly*, 43(3), 386-403.

Kugler, M. R. (2001). After-school programs are making a difference. *NASSP Bulletin*, 85(626), 3-11.

Lauer, R. A., Akiba, M., Wikerson, S. B., Aphthorp, H. S., Snow, D., & Martin-Glenn, M.

L. (2006). Out-of-school-time programs: A meta-analysis of effects for at-risk students. *Review of Educational Research*, 76, 275-313.

Laughlin, L. (Oct 2011). *Maternity leave and employment patterns of first-time mothers: 1961-2008*.

Retrieved from the U.S. Census Bureau website: <http://www.census.gov/prod/2011pubs/p70-128.pdf>

Laughlin, L. (April 2013). Who's minding the kids? Child care arrangements: Spring 2011. Retrieved from the U.S. Census Bureau website:

<http://www.census.gov/content/dam/Census/library/publications/2013/demo/p70-135.pdf>

Lawrence, S., & Kreader, L. (2006). School-age child care arrangements. *Research-To-Policy Connections* (No. 4). Retrieved from [www.researchconnections.org](http://www.researchconnections.org)

- Little, P. M. D., Wimer, C., & Weiss, H. (2007). *After programs in the 21<sup>st</sup> century: Their potential and what it takes to achieve it*. Harvard Family Research Project. Retrieved from [www.hfrp.org](http://www.hfrp.org).
- Little, P. M. D., Wimer, C., & Weiss, H. (2008). *Issues and opportunities in out-of-school time evaluation*. Harvard Family Research Project.
- Lopoo, L. M. (2007). While the cats' away, do the mice play? Maternal employment and the after-school activities of adolescents. *Social Science Quarterly*, 88(5), 1358-1373.
- Mahoney, J. L., & Cairns, R. B. (1997). Do extracurricular activities protect against early school dropout? *Developmental Psychology*, 33, 241-253.
- Mahoney, J. L., Lord, H., & Carryl, E. (2005). Afterschool program participation and the development of child obesity and peer acceptance. *Applied Developmental Science*, 9(4), 202-215.
- Marshall, C., & Grossman, G. B. (1994). *Designing qualitative research*. Thousand Oaks, CA: Sage Publications.
- Michalopoulos, C., & Robins, P. K. (2000). Employment and child-care choice in Canada and the United States. *Canadian Journal of Economics*, 33(2), 435-470.
- National Center for Education Statistics (2015a). *National Household Education Surveys Programs (NHES) – School Age Children*. Retrieved from [https://nces.ed.gov/nhes/surveytopics\\_school.asp](https://nces.ed.gov/nhes/surveytopics_school.asp)
- National Center for Education Statistics (2015b). *NHES: 2005 After-School Programs and Activities Interview*. Retrieved from [http://nces.ed.gov/nhes/pdf/userman/NHES\\_2005\\_Vol\\_III\\_ASPA.pdf](http://nces.ed.gov/nhes/pdf/userman/NHES_2005_Vol_III_ASPA.pdf)
- National Center for Education Statistics (2015c). *ASPA-NHES: 2005*. Retrieved from <https://nces.ed.gov/nhes/questionnaires.asp>
- Pallant, J. (2007). *SPSS: Survival manual* (3<sup>rd</sup> ed). New York: McGraw-Hill.
- Parcel, T. L., & Menaghan, E. G. (January 1994). Early parental work, family social capital, and early childhood outcomes. *American Journal of sociology*, 99(4), 972-1009.
- Perry, D. G. (1996). Development and socialization of aggression. In Corte, E. D., & Weinert, F. E. (Eds.), *International Encyclopedia of Developmental and Instructional Psychology* (pp. 202-206).

New York: Elsevier Science Inc.

- Pettit, G. S., Laird, R. D., Bates, J. E., & Dodge, K. A. (1997). Patterns of after-school care in middle childhood: risk factors and developmental outcomes. *Merrill-Palmer Quarterly*, *43*, 515-538.
- Philliber, S., Kaye, J. W., & Herrling, S. (May 2001). *The national evaluation of the Children's Aid Society Carrera-Model Program to prevent teen pregnancy*. Accord, NY: Philliber Research Associates.
- Pierce, K. M., & Vandell, D. L. (March 1999). *Safe Haven Program evaluation (1997-98)*. Madison: University of Wisconsin Center for Educational Research.
- Posner, J. K., & Vandell, D. L. (1994). Low-income children's after-school care: Are there beneficial effects of after-school programs? *Child Development*, *65*(2), 450-456.
- Powell, L. M. (2002). Joint labor supply and childcare choice decisions of married mothers. *The Journal of Human Resources*, *37*(1), 106-128.
- Radey, M., & Brewster, K. (2007). The influence of race/ethnicity on disadvantaged mothers' child care arrangements. *Early Childhood Research Quarterly*, *22*, 379-393.
- Reisner, E. R., White, R. N., Birmingham, J., & Welsh, M. (2001). *Building quality and supporting expansion of after-school projects: Evaluation results from the TASC After-School Programs' second year*. Washington, DC: Policy Studies Associates.
- Reynolds, A. J., Temple, J. A., Robertson, D. L., & Mann, E. A. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest. *Journal of the American Medical Association*, *285*, 2339-2346.
- Ribar, D. C. (1992). Child care and the labor supply of married women: Reduced form evidence. *The Journal of Human Resources*, *27*(1), 134-165.
- Riggs, N. R., & Greenberg, M. T. (2004). After-school youth development programs: A developmental-ecological model of current research. *Clinical Child and Family Psychology*

- Review*, 7, 177-190.
- Rodman, H., Pratto, D. J., & Nelson, R. S. (1985). Child care arrangements and children's functioning: A comparison of self-care and adult-care children. *Developmental Psychology*, 21, 413-418.
- Roffman, J. G., Pagano, M. E., & Hirsch, B. J. (2001). Youth functioning and experiences in inner-city after-school programs among age, gender, and race groups. *Journal of Child and Family Studies*, 10, 85-100.
- Roll, S. J. (2010). *A study of the coping strategies of financially vulnerable families facing the child care cliff* (Doctoral Dissertation). Retrieved from Proquest Digital Database.
- Rubin, A., & Babbie, E. R. (2016). *Essential Research Methods for Social Work* (3<sup>rd</sup> ed.). Belmont, CA: Brooks/Cole. Cengage Learning.
- Saltzstein, A., Ting, Y., & Saltzstein, G. (2001). Work -family balance and job satisfaction: The impact of family friendly policies on attitudes of federal government employees. *Public Administration Review*, 4, 452-467.
- Scarr, S. (1998). American child care today. *American Psychologist*, 53(2), 95-108.
- Schwartz, R. M., Schmitt, M. C., & Lose, M. K. (June 2012). Effects of teacher-student in response to intervention approaches. *The Elementary School Journal*, 112(4), 547-567.
- Siegler, R. S., & Shrager, J. (1984). Strategy choices in addition and subtraction: How do children know what to do? In C. Sophian (Ed.), *Origins of cognitive skills* (pp. 229-293). Hillsdale, NJ: Erlbaum.
- Sonenstein, F. L., Gates, G., Schmidt, S. R., & Bolshun, N. (2002). *Primary Child Care Arrangements of Employed Parents: Findings from the 1999 National Survey of America's Families*. Retrieved from The Urban Institute website:  
[http://www.urban.org/UploadedPDF/310487\\_OP59.pdf](http://www.urban.org/UploadedPDF/310487_OP59.pdf)
- Sonenstein, F.L., & Wolf, D. (1991). Satisfaction with child care: Perspectives on welfare mothers. *Journal of Social Issues*, 47(2), 15-31.

- Steinberg, L. (1986). Latchkey children and susceptibility to peer pressure: An ecological analysis. *Developmental Psychology*, 22, 433-439.
- Swenson, K. (2013). *Child care arrangements in urban and rural areas*. Retrieved from U.S. Department of Health and Human Services website: <https://aspe.hhs.gov/pdf-report/child-care-arrangements-urban-and-rural-areas>
- U. S. Census Bureau (2013). *Poverty Definition*. Retrieved from <http://www.census.gov/hhes/www/poverty/methods/definitions.html>
- U.S. Department of Labor (2012). *Employment status of parents, 2011*. Retrieved from [http://www.bls.gov/opub/ted/2012/ted\\_20120427.htm](http://www.bls.gov/opub/ted/2012/ted_20120427.htm)
- U.S. Department of Education. (2000). *No Child Left Behind Act*. Retrieved from <http://www.ed.gov/nclb/landing.jhtml>
- U.S. House of Representatives, Committee on Ways and Means. (2004). *2004 Green Book: Background Material and Data on Programs Within the Jurisdiction of the Committee on Ways and Means*. Committee Report WMCP: 108-6. Washington, DC: Government Printing Office. Retrieved from <http://www.gpo.gov/fdsys/pkg/GPO-CPRT-108WPRT108-6/pdf/GPO-CPRT-108WPRT108-6-2-9.pdf>.
- Uttal, L. (1999). Using kin for child care: Embedment in the socioeconomic networks for extended families. *Journal of Marriage and Family*, 61(4), 845-857.
- Vandell, D. L., & Corasaniti, M. A. (1988). The relation between third graders' after school care and social, academic, and emotional functioning. *Child Development*, 59, 868-875.
- Vandell, D. L., & Ramanan, J. (1991). Children of the National Longitudinal Survey of Youth: Choices in after-school care and child development. *Developmental Psychology*, 27, 637-643.
- Varuhas, J., Fursman, L., & Jacobsen, V. (2003). *Work and family balance: An economic view*. (Working Paper 03/26). Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.197.3439&rep=rep1&type=pdf>
- Walls, J. K. (2010). *Implications of intensive mothering beliefs for the well-being of full-time*

*employed mothers of infants: Moderating effects of childcare satisfaction and workplace flexibility* (Doctoral Dissertation). Retrieved from Proquest Digital Database.

Weiss, F. L., & Nicholson, H. J. (1998). Friendly PEERsuasion against substance use: The girls incorporated model and evaluation. *Drugs & Society, 12*(1/2), 7-22.

Woodard, J. L., & Fine, M. A. (1991). Long-term effects of self-supervised and adult-supervised child care arrangements on personality traits, emotional adjustment, and cognitive development. *Journal of Applied Developmental Psychology, 12*, 73-85.