

**Mother-Child Relationships and Child Social Development through the
Lens of Work-Life Balance and Role Theory**

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Abstract

This study is meant to determine a possible relationship between a mother's work-life balance, perceived stress, and role salience, and how that relates to the social/behavioral development of their children. Mothers face significant challenges in their professional and personal lives, often experiencing conflict in maintaining work-life balance (WLB) which can lead to an increased amount of stress. Role salience, or the importance they assign to their professional and parental roles, can also play a part in maintaining work-life balance and how they experience stress. The salient role could dictate how time and energy is distributed. Child development has shown that children are greatly impacted by the stress and parenting attitudes of their mothers in terms of their social and emotional regulation. To test this, a Google Form consisting of four surveys that collected data on demographics, WLB, role salience, and child behavior was distributed to 62 working mothers in the United States. The results of this study is to help to broaden what is understood about the connection between maternal WLB stress and role attitudes to child social behavior. It was found that maternal WLB and role salience did not have a significant correlation with child social behavior. However, it was discovered that the number of children per mother was a more relevant factor in the prevalence of negative child social behavior.

Acknowledgements

My study has been a very personal project and I sincerely appreciate the support I received from loved ones along the way. I'd like to thank my teachers, Mrs. Nancy Flanagan, Mrs. Jessica Puopolo, and Mrs. Amanada Bates for their guidance and encouragement throughout this process, as well as my mentor Dr. Lena Ackermann of the University of Gottingen, who has provided me with a broader understanding of my field. I would also like to acknowledge the support of my fellow research students, friends, and family who have shared this journey with me.

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Introduction

Previous studies have tried to answer individual questions regarding mother's workplace disadvantages and work-life balance (WLB), causes of poor child social development, and the effects of role salience on everyday life. Yet, there have been virtually no studies that combine these concepts and analyze a possible relationship between them.

Maternal professional issues & WLB

In the United States, mothers, and women in general, face significant challenges in the workforce due to societal pressures, family responsibilities, workplace discrimination, and the wage gap (Anderson, Binder, and Krause, 2003). The wage gap is a term to describe the phenomenon in which women earn less than men in the same profession but also their general lower income level as a whole compared to men. Studies have shown that once a mother re-enters the workforce after having a child, they often fall victim to the Motherhood Wage Penalty (MWP). The MWP is roughly 3% for one child and 5.7% for two or more children (Hersch, 2006). This especially affects lower-class women and women without a college education (Anderson, Binder, and Krause, 2003). The penalty reflects the societal bias that women can not adequately perform their jobs while dedicating time to their family as well as the inequities caused by educational achievement between socioeconomic classes.

In addition to the wage gap and MWP, women have many barriers in the workforce that affect their WLB. Work-life balance is the state of the boundaries dividing one's professional and domestic responsibilities. Women typically have more difficulty maintaining WLB due to the added pressure for them to contribute the majority of domestic responsibilities. Responsibilities

and support in both 'work' and 'life' domains contribute to the perception and experience of WLB. A study conducted in Spain showed that working mothers had poor WLB and did not feel supported by their coworkers and family. The researchers also found that even when these women had extensive experience and training, their male counterparts received promotions and raises much earlier in their careers. This caused the women to have a more negative perception of their performance and work environment (Coronel, Moreno, and Carrasco, 2010).

The COVID-19 pandemic also contributed negatively to mother's WLB. Researchers have found that with a large number of mothers working from home, their time between work and family becomes significantly less separated. When mothers are working from home, they are expected to help their children at all times, while still performing all the necessary tasks of their employers (Adisa, Aiyenitaju, Adekoya, 2021). This increased domestic engagement of women during the pandemic is a product of the preexisting expectations of women and the needs of pandemic isolation which resulted in increased stress for mothers. Although the pandemic has passed, remote and hybrid work models have become common and can elicit similar feelings of stress as the pandemic work-life circumstance.

Overall, work-life balance is indicative of how a mother views their responsibilities and her success in maintaining them. In this study, WLB is meant to serve as a measurement of potential stress levels and satisfaction with parenting and professional performance.

Child development

Children need consistent and supportive interactions with their parents, especially during early childhood, generally from birth to six years of age. Positive, non-aggressive parenting styles are important to nurture positive child development and behavioral growth. Studies have found that children experiencing negative parenting, which is characterized by authoritarian practices, show low prosocial behaviors and high internalized and externalized problems. Prosocial behavior is the ability to which a person, specifically children, can be cooperative and secure interacting with others. Internalization is exemplified in kids through stress, anxiety and irrational fears while externalization can be seen as tantrums or emotional outbursts. This combination of low prosocialism and high internalized and externalized problems creates evident behavioral issues and developmental difficulties (Hosokawa & Katsura, 2021). As stated, one cause of behavioral issues among children is negative parenting which can often be caused by parental stress related to WLB. It has been shown that mother's with significantly negative WLB and work-life spillover are more likely to be authoritarian parents (Hosokawa & Katsura, 2021).

Another predictor of childhood behavioral problems is socioeconomic status. A Japanese study found that lower income children have significantly higher rates of reported behavioral problems. Lower parental education was also shown to have a negative effect on child development and behavior, but only as it relates to occupation and income level (Hosokawa & Katsura, 2018). This correlation is a result of the lack of resources low income families have to assist their children. The stress of their economic status is connected to poor WLB which then leads to authoritarian parenting practices.

Role theory & Role salience

Roles are characterized by categories of specific behavior sets. Role theory is the idea that all roles are a result of the expectations of our society and peers; they are reactions to our environment (Hodges and Park, 2013). This study focuses on the roles of mothers and professionals.

Mothers are expected to be the primary caregiver for their children which comes with various responsibilities, such as domestic labor, and societal expectations, such as being inherently nurturing and patient. With this pressure of domestic labor, they are expected to be available for their children at all times. Similarly, professionals/workers are expected to be accessible to their company/clients and devote all necessary time and effort to them (Hodges and Park, 2013). These two roles are generally in opposition to one another as society views them as absolutist commitments. This opposition indicates that when one role is active the other is inhibited which can stunt a woman's success in both roles. The opposition between their two main domains of work and family can lead to stress and poor well-being. Many researchers have suggested that the mere existence of the two roles is not inherently problematic, but rather the level of role salience, the importance someone assigns to a particular role, is what contributes to this problem (Noor, 2004).

Men and women experience role salience differently due to their differing societal expectations and socialization. While the roles of 'parent' and 'professional' are oppositional for women, they are facilitative for men. Researchers have found that people perceive the roles of 'dad' and 'professional' to have more overlapping traits than 'mom' and 'professional'. This is

mainly due to the expectation of fathers to provide the household's income, making their two roles connected. They have also found that men could have a stronger preference of their professional role without it interfering with their parental role in opposition, while women were constantly shifting focus between roles based on need and success in either domain (Hodges and Park, 2013).

Due to the COVID-19 pandemic, a newer term has emerged in the discussion of role theory, role differentiation. Role differentiation is the ability and process of compartmentalizing each role according to behaviors, responsibilities, etc.. Working from home has caused mother's professional and family lives to collide more than ever before. With this new work model, they no longer have a definitive separation between the roles of 'worker' and 'mother', as they are meant to perform both almost simultaneously at home (Adisa, Aiyenitaju, Adekoya, 2021).

Purpose

This study aims to analyze the relationship between mother's Work-Life Balance, their level of role salience in the parental and professional domains, and effects this may have on child development. It can be hypothesized that mothers with negative Work-Life Balance and higher levels of professional salience will negatively affect their children's behavior and socialization.

Methodology

Procedure

The participants of this study were working mothers living in the United States. The survey used in this study was a Google Form that was distributed to the staff of the Monroe-Woodbury Central School District in Central Valley, NY, as well as Facebook groups for mothers and LinkedIn. This Google Form consisted of four survey sections and began by asking for the consent of the participant to have their data collected. The four surveys included a self developed demographic information survey, a Child Behavior survey, adapted from the Child Behaviour Checklist, a Role Salience Survey, and a Work-Life Balance survey. The identity of the participants remained anonymous. Once a survey was completed the data was transferred to a linked Google spreadsheet before being analyzed.

Demographic Survey

The demographic survey included questions about the participant's age, race, location, number of children, employment, and income. This was relative to include as many previous studies have shown that demographic factors play a significant role in how mothers perceive their work-life balance and attitudes toward their professional and parental roles. It also provided another way to categorize the data by focusing on specific factors.

Child Behavior Survey

This survey was adapted from the Child Behavior Checklist developed by Achenbach and Edelbrock (1983). They completed a separate survey for each of their children. The questions asked the participant to rate on a scale of one to three their level of agreement with each

statement regarding their child's behavior. For example these statements included, "My child has many worries or often seems worried" and "My child often fights with other children or bullies them". At the end of this section participants were asked to rate any concerns for their child and impact of their child's behavior on the family.

Work-Life Balance Survey

This section measured the women's perception of their work-life balance. It asks questions about the distribution of time given to both work and life functions and their feelings about their current arrangement. The WLB survey, in combination with the role salience survey, helps to gauge the mother's attitude towards their professional and parental responsibilities and how the labor of these responsibilities impacts them.

Role Salience Survey

The Role Salience survey was used to determine the participant's preference for either their parental or professional role and measure their perception of their priorities. This included a list of statements for participants to rate their agreement level with. Statements included "I expect to leave most of the day-to-day details of running a home to someone else" and "It is important to me to feel I am and will be an effective parent".

Data Analysis

The results of each survey will be compared to determine the relationship between the variables. The independent variables are the demographic information, the mother's WLB management, and their role salience. The dependent variable is the behavior of their child. All

individual surveys were scored and compiled to conduct multiple t-tests. The scores were also translated graphically to determine any more general correlations between variables.

Results

There was data collected on 62 participating mothers and 131 total children. The majority of participants were married, white, between the ages of 36 and 49 (**Figure 1**), lived in the state of New York, had earned a graduate degree, worked a full-time job, and earned more than \$150,000 a year. The only states represented in this sample were New York, New Jersey, Pennsylvania, Ohio, and Tennessee. The mothers had a range of one to four children (**Figure 2**), with 45.2 percent having two children and only one participant having four children.

When comparing the average survey scores (**Figure 3**) for child behavior, WLB, and role salience, the scores of the mother with four children were not included as one family could not accurately represent the experience of a broader demographic. Mothers with 3 children reported their children to have the highest level of social behavior issues, with an average score of 41.537, which is 13 to 14 percent higher than the other groups. Mothers with three children also had more WLB stress, however mothers with one child had similar WLB scores while mothers with two children had the lowest.

In terms of role salience, there was a slight parental preference throughout the sample. However, many of them showed that they were comparable devoted to both domains, meaning that while they scored high on questions asking about career involvement, some of them scored just as high on the parentally based questions (**Figure 4**).

Overall, it was shown that the participants had mid-low WLB issues, but noted that they were 20 percent more concerned about the completion of household responsibilities than work related responsibilities.

There was no significant correlation found between child behavioral issues and maternal WLB or between child behavioral issues and maternal role salience. There were no broad discernable patterns throughout the entire participant base (**Figure 5**).

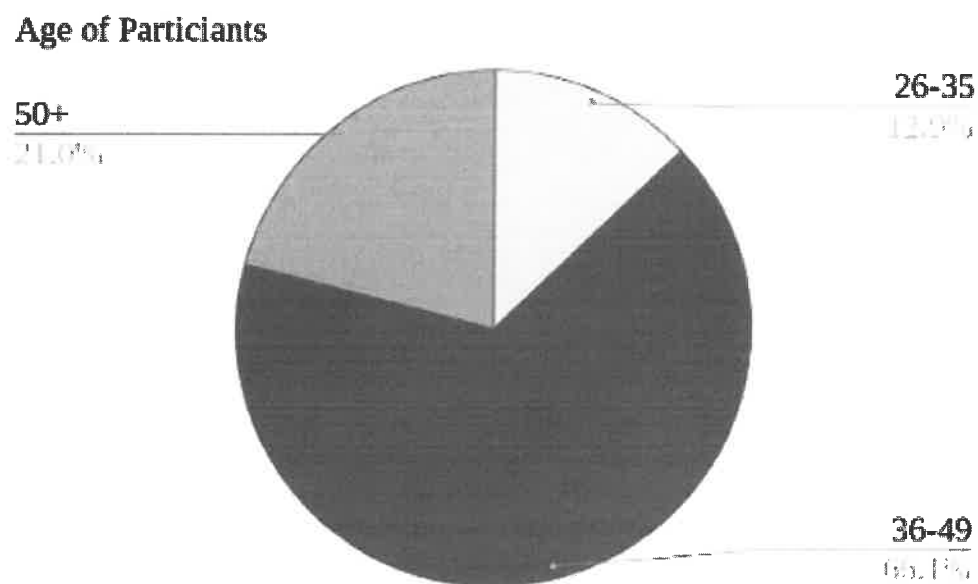


Figure 1: Age distribution of studied participants

Number of Children

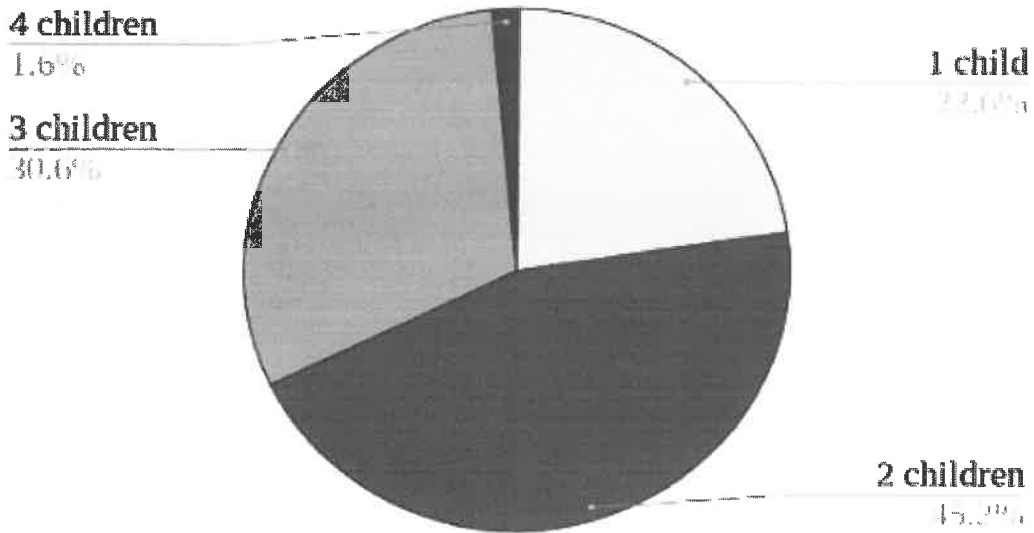


Figure 2: Chart distribution of number of children

	Average Child Behavior Score	Average WLB Score	Average Role Salience Score
1 Child	35.929	18.286	46.429
2 Children	36.155	16.621	46.552
3 Children	41.537	19.5	51.556
4 Children**	47.5	23	50

Figure 3 : Average Survey Scores

**The average scores for families of four children were not considered significant as only one participant had four children.

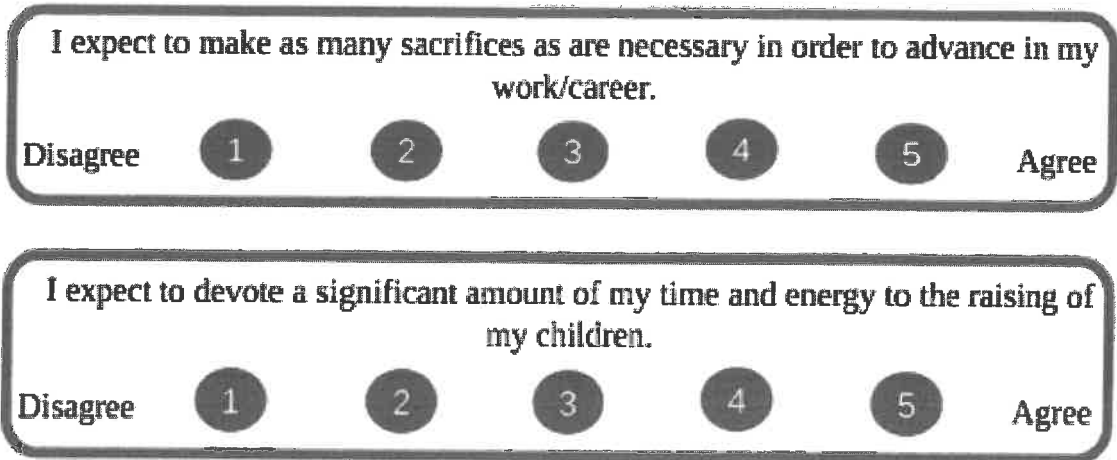


Figure 4: Example Questions from the Role Salience Survey

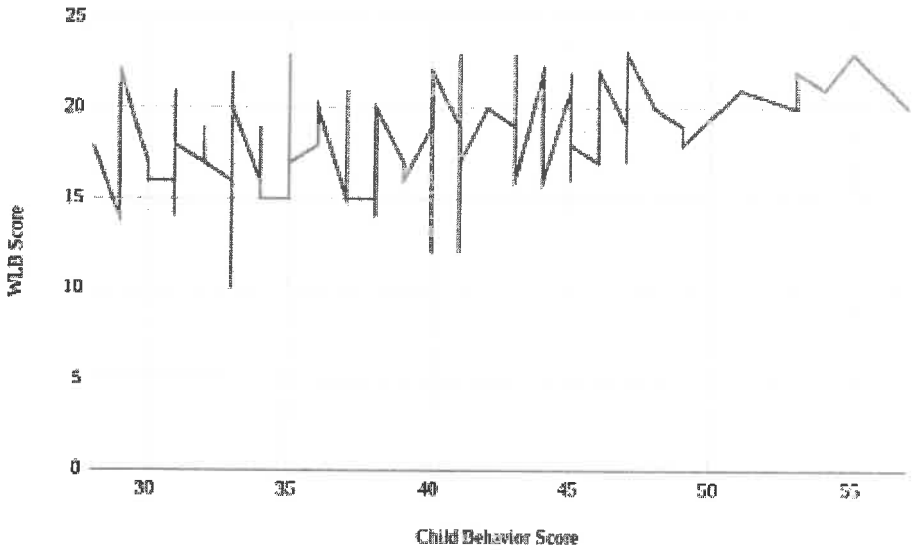


Figure 5: WLB Survey Scores vs Child Behavior
No clear correlation shown

Discussion

The results of this study help to broaden the understanding of the factors that impact child social behavior and the well-being and parenting attitudes of their mothers. The lack of correlation between social behavior and maternal WLB shows that mothers are adequately capable of balancing their work and domestic responsibilities in a way that is not detrimental to their children. The lack of correlation between maternal role salience and child social behavior can likely be attributed to the participants not having strong professional saliences. They were either more focused on family responsibilities or equally concerned with both domains.

The results of this study show that the number of children is the largest factor in negative child social behavior. This identifies a possible problem in the parenting methods and household dynamics within larger families that creates maladjusted social tendencies. Sibling dynamics and birth order could be significant factors when considering child social behavior, as sibling/familial interactions are a child's first expression of social behavior. This should be considered in future research. It may also be valuable to test maternal parenting stress separately from their WLB measure as this could provide more insight into the relationship between maternal attitudes and child behavior.

It is important to note the limitations of this study. Firstly, the sample size of participants was considerably small, making it difficult to determine its validity in comparison to the general population. This study only included mothers from the United States, with the vast majority of them being located in the state of New York and only five other states were minimally represented. There are variations in economic and cultural conditions across countries and states

that could affect the results. The present sample is also educationally oversaturated, while roughly 9 percent of Americans have a graduate degree, 83.9 percent of the participants had earned a graduate degree. With this, there was not a significant relationship between child behavior and income level in the present sample which was likely caused by the lack of economic diversity as most of the participants made more than \$150,000 a year. The majority of the participants being of a middle-high socioeconomic class, due to having high education and income levels, can lead to the inference that they have more resources to support their children. No significance could be concluded based on the factors of race, marital status, or full-time vs part-time employment styles due to the lack of demographic diversity in participants. It can be determined that the present sample is not representative of the entire population of American working mothers. This could have to do with the majority of participants being recruited from Monroe-Woodbury Central School District staff, as the vast majority of the district's staff have similar demographic qualities.

Conclusion

Maternal work-life balance and role salience did not have a significant effect on child social behavior in this study. However, it was found that the number of children in a family may be more significant to consider when analyzing social behavior as children of three had the highest prevalence of negative social behavior. Mothers of three reported their children to have the highest prevalence of negative behavior.

The mothers in the present sample tended to have high dual salience between their parental and professional roles, or only exhibited a slight parental preference. Their role salience

survey results did not show any significant correlation to their WLB results or to their children's behavior.

The lack of significance between child behavior and maternal WLB and role salience can help to support the idea that mothers can effectively maintain their professional and personal lives together, or at least do so in a way that does not impact their children. While there has been societal ideation that a woman's career harms her ability to maintain a balanced lifestyle and care for her children properly, the present results help to show that this can be done and shift the blame for the child's behavior away from the mother.

The results of this study direct future research towards the exploration of internal family dynamics, based on the number of children in a family, that may relate to increased negative child social behavior. As mentioned previously, it would also be valuable to test maternal stress in relation to only domestic responsibilities, rather than WLB. However, it would also be worthwhile to perform the same methodology on a more diverse population as it was determined that the results may have been insignificant due to the size and lack of diversity in the present sample.

References:

- Adekoya, Adisa , Aiyenitaju. "The work–family balance of British working women during the COVID-19 pandemic". *Work Applied Management*. 2021.
- Anderson, Binder, Krause. "The Motherhood Wage Penalty Revisited: Experience, Heterogeneity, Work Effort, and WorkSchedule Flexibility". *Industrial and Labor Relations Review*. Jan., 2003.
- Carrasco, Coronel, Moreno. "Work-family Conflicts and the Organizational Work Culture as Barriers to Women Educational Managers". *Gender, Work and Organization*. March 2010.
- Hersch. "Children and housework". *Foundations and Trends in Microeconomics*. Oct. 2006.
- Hodges and Park. "Oppositional Dissimilarities in Women and Men Experience Parent Versus Professional Roles". *Journal of Personality and Social Psychology*. 2013.
- Hosokawa and Katsura. "Maternal Work-Life Balance and Children's Social Adjustment: the Mediating Role of Perceived Stress and Parenting Practices". *International Journal of Environmental Research and Public Health*. 2021.
- Hosokawa and Katsura. "Effect of socioeconomic status on behavioral problems from preschool to early elementary school - A Japanese longitudinal study". *PLOS One*. 2018.
- Noor. "Work-Family Conflict, Work- and Family- Role salience, and Women's Well being". *Journal of Social Psychology*. 2004.

2023 - 2024 Junior Science & Humanities Symposium Statement of Outside Assistance

Students submitting their research paper to the Regional and National symposium must complete this form in full and submit with the final research paper.

Please type "N/A" in any field that is "not applicable" to your research.

Projects conducted without proper supervision will be disqualified from both regional and National competition. Further guidelines may be found at <http://www.jshs.org> & in the Core of Rules of Competition.

Student Participant to Complete:

Name: Hailey Lanari

Title of Paper: Mother-Child Relationships and Child Social Development through the Lens of
Work-Life Balance and Role Theory

School: Monroe Woodbury High School

Teacher or Mentor Name: Mrs. Amanda Bates

Regional Symposium: New York-Upstate

1. Please explain your role in the development of the project idea.

I was responsible for the entire development of the idea. I chose the topic, participant focus, collected background research, created the surveys used, etc.

2. What steps led you to formulate your research question?

– or – What steps led you to develop the design for your project?

I first began studying a variety of topics such as women's professional experience, work-life balance concepts, maternal perceptions of stress, wage gaps, etc, as well as child psychological development and mother-child relationships. From there, I narrowed down my topic to work-life balance stress and child social behavior with the question: Does increased maternal stress and salience to parental or professional roles have an affect on children's social development patterns.



- 3. Where did you conduct the major part of your work? If an institutional setting, list the name.**
(e.g., home, school, or other institutional setting such as university lab, medical center, etc.)
My work was conducted at school and at home.

- 4. Describe the assistance that you received throughout the project.**

Throughout the project I received guidance from my teacher as to the timeline and scale of my project and learned conceptual information from various experts in the field of sociology and child psychology.

- 5. If you conducted your research in an institutional setting (i.e., university lab, medical center, etc.), describe your role on the team AND what role each person played in the research investigation?**

N/A

6. **Describe what parts of the research you did on your own and what parts where you received help.** (e.g., literature search, hypothesis, experimental design, use of special equipment, gathering data, evaluation of data, statistical analysis, conclusions, and preparation of written report (abstract and/or paper))

All parts of my research were completed independently. While I received guidance from others for background information and methodology logistics, I was responsible for the entirety of the research, data collection and analysis, conclusions, and the written report.

7. **Was any data set from an outside source (literature, handbooks, publicly available or privately shared tables, etc.) used in the research? If so, what data set(s) was used and from where was it sourced? What was its purpose in this research?**

N/A

8. **Was the data set sourced outside this research the only way to obtain the data required for the research? Please explain.**

N/a

9. Is this research a continuation of an investigation that was previously submitted to a regional JSHS? If so, describe how you have expanded your investigation.

N/a

10. If this is a continuation project, please submit your previously submitted abstract here (copy/paste).

N/a

11. Did you utilize any form of AI in your research or paper? If so, explain what tools were used AND for what purpose.

N/A

12. Is there an IRB determination on file for this research? (Yes/No)

No

13. Provide the IRB determination details including IRB number, name, institution, and dates.

14. Provide full details about the processes and procedures utilized for your research, including usage & disposal of materials.

All the participants in this study were working mothers who volunteered for my study via Facebook groups, LinkedIn, and administrative distribution to staff in the Monroe-Woodbury Central School District. This study was survey based and used a Google Form comprised of four sub-surveys which consisted of demographics, work-life balance measure, role salience measure, and a questionnaire regarding the behavior of each of the participant's children. All participants remained anonymous and consented to having their data analyzed. After data collection I statistically analyzed the data.

Teacher and/or Supervising Mentor to Complete (or Parent if no teacher/mentor involvement):

Comments by teacher and/or supervising mentor on the students' individual contributions to the research investigation or engineering/computer science project. If no Teacher or Mentor/Scientist was involved the Parent must complete this section describing their role in the research.

Hailey was responsible for the entire life cycle of the research project, covering the development of a research question / hypothesis, conducting a literature review, creating the surveys, collecting and analyzing the data and writing up.

Statement by the teacher and/or supervising mentor acknowledging that the student conducted the research in accordance with proper procedures and protocols for the conduct of animal research or human research.

The research was conducted in line with proper procedures for human research.

The Student, Teacher and/or Supervising Mentor must sign below. If you did the work without a teacher or supervising scientist, you will need a signature from your parent and a brief description of their role in the research.

11/20/23

Date


Signature of **Student** (required)

Monroe Woodbury High School

Student's High School

11.28.23

Date


Signature of **Teacher**

Monroe Woodbury High School

Teacher's High School

11/20/23

Date


Signature of **Supervising Mentor**

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Lena Ackermann

Name of **Supervising Mentor**

PhD

Title of **Supervising Mentor**

German Primate Center / University of Göttingen, Germany

Institution of **Supervising Mentor**

Date

Signature of **Parent** (required if no Teacher or Supervising Mentor was involved in the research.)

Name and Phone Number of **Parent**