

Student Responses to RENEWAL Questions

The following apply only for renewal applications. Please consider these responses in making your assessment of the application.

1. Please describe how successful you were in achieving the intended outcomes of and adhering to the plan/timeline of your original proposal.

The significant change to my project is my proposed timeline. I misjudged the complexity of my project and therefore, miscalculated my timeline. I did not realize how time consuming creating and thoroughly checking the 6 SPSS files would be. I have been reassured that everything else to be done for this project will progress at a faster pace.

2. Please describe how successful you think your relationship with your mentor was during your first semester of UROP.

My relationship with Dr. [REDACTED] has been successful during this first semester of UROP. She is very responsive to my questions and available to meet anytime I need extra help. One thing she did that I feel is unique to her is she scheduled a meeting with her grad students where I presented the project and they provided helpful feedback. I appreciate the ways Dr. [REDACTED] facilitates my goals with this project.

3. Please explain what you think the impact of an additional semester in UROP would be to your educational and career goals.

I think another semester of UROP would impact my educational and clinical psychology career goals by providing the continued opportunity to experience the benefits of a complex research project. This project includes many steps and has taught me research takes patience, it requires more time than expected and still very rewarding. The educational and career benefits from these lessons would be; a greater appreciation for research, a deeper understanding of relationship dynamics and the experience of presenting and writing research results.

UROP Proposal

Title of Proposal

Proposal to Study the Buffering Effect of Fathers' Support on Mothers' Stress During Pregnancy and Newborn Outcomes

Problem/Topic of Research or Creative Work

Maternal stress during pregnancy is linked to low birthweight and child psychological problems (Rice, et al., 2006). Prenatal maternal stress, for example, can be caused by anxiety, depression, socioeconomic status and stress or trauma experienced in childhood (Kingston et al. 2012, Rice et al., 2006). Due to the implications of maternal stress, ways of supporting mothers during pregnancy should be examined. There is a gap in research, evaluating how a father may serve as a buffer for the extent that the mother's prenatal stress may affect newborn outcomes.

Michael Lamb, PhD. (2014) reports father involvement (postnatally) creates a "much warmer and richer" relationship with the mother, thus promoting a more positive environment for the child.

However, research using father participants and their relationships with the mother to gauge their impact on their newborn's is lacking. Studies have primarily focused on the mother-child dyad (Cabrera, Volling, Barr, 2018) before birth.

Seah & Morawska (2016) examined new parents and stress and found couples who reported high satisfaction in their marriage "reduced association with stress". This finding relates to the buffering hypothesis which is "social support is support, often invisible, provided by family and friends as a direct protector (or buffer) from stress" (Cohen & Wills, 1985). This project aims to contribute to prenatal and newborn research by examining whether fathers' support influences newborn outcomes by buffering maternal stress. Therefore, this project will be informed by the buffering hypothesis and data collected from the Baby Affect and Behavior (BABY) Study to determine newborn outcomes.

Relevant Background/Literature Review

Twenty-first century fathers have become increasingly involved in raising their children (Lamb & Tamis-Lemonda, 2014.; Pew Research Center, 2013). Father involvement is important to a child's healthy development and an important part of the family dynamic. Research has not yet caught up to this increased involvement since fathers are rarely asked to be participants in research studies. The majority of studies include mothers' self-report of father involvement. Such studies have shown that father participation during the prenatal period influences mothers to seek prenatal care more often (Zvara, Schoppe-Sullivan & Dush, 2013) and this involvement leads to active participation in their child's life (Zvara, et al., 2013). If fathers do participate in research, measures developed for mothers are typically used (Cabrera, Volling, Barr, 2018). Most studies have focused on the effects of father involvement on development and attachment of their child (Lamb, 2014) and the effects of absentee fathers on their children (Cabrera, Volling, Barr, 2018). Results from such studies have shown fathers play a critical role in a child's well-being. Research in this area is lacking. Fathers often feel excluded or ignored during the prenatal period (Dayton, et al., 2016). They feel a need for support and for information about this major change in their lives (Seah & Morawska, 2016). Mothers, however, are provided needed attention, support and advice due to their physical changes. Fathers have been excluded from prenatal research as well. Little is known about the effects of father involvement on their unborn child. This project aims to fill the gap of research whether fathers influence newborn outcomes by buffering maternal stress. This project will include father participation to ascertain a representative sample.

Methods

The [REDACTED] Study examines maternal dysregulation during pregnancy and the effects it has on the child. Epigenetics, emotional regulation and parental bonding are used to measure such effects. All participants are asked to attend a prenatal session, authorize a newborn exam within 24 hours of birth, attend a session with their 7-month old and again at 18-months. The prenatal portion of the BABY Study recently concluded. The information obtained from this portion of the study, as well as newborn exams, will be utilized for this project.

Out of 148 eligible fathers, 90 fathers have completed the Dyadic Adjustment Scale, and 77 have completed the LSI. I will compare and contrast answers given by the mother and father from the LSI and the Dyadic Adjustment Scale on relationship quality as moderators in this analysis. I will use completed DERS of mothers to assess level of stress. As the predictor for this project, results from NICU Network Neurobehavioral Scale (NNNS) exam will be used to assess newborn level of reactivity and attention at birth, as well as initial birth outcomes of birthweight and gestational age.

These scores will act as outcomes. Finally, all combined data will be analyzed to determine if newborn outcomes are affected by the father buffering the mother's stress.

The Dyadic Adjustment Scale is a survey that measures relationship satisfaction and the Life Stress Interview (LSI) rates stress in five categories: intimate partner relationships, finances, family relationships, health, and work. The DERS is a survey of 36 questions about responses to current stressors. The NICU Network Neurobehavioral Scale (NNNS) assesses a newborn's reactivity, attention, auditory, self-soothing capabilities, and stress level (Tronic and Lester, 2013). Results from the Dyadic Adjustment Scale, the Life Stress Interview (LSI), the Difficulty in Emotional Regulation Scale (DERS) and the NICU Network Neurobehavioral Scale (NNNS) will inform this project.

Measures

This project will measure maternal stress as the independent variable, father support as the moderator and newborn reactivity and attention as the dependent variable. Maternal stress scores from LSI and DERS. Maternal stress will be measured using scores from DERS and LSI. Results will then be compared to reported father support measured by LSI and Dyadic Adjustment scores from both parents. The NNNS scores will then be compared to maternal stress.

Specific Activities to be Undertaken and Timeframe for Each Activity

During spring semester, I was trained on creating and correcting SPSS data files for each parent measure. All six measures are complete. Currently, I am training and assisting in creating syntax for all measures with our Project Coordinator. I will then examine each mother's responses regarding relationship questions on all three surveys. Only mothers who complete all three surveys will be included. I will cross check these results with any notes our Project Coordinator has from the qualifying interviews each participant completes. I will then go through all of the fathers' answers and match them up with their partners. I anticipate completing these steps by the end of Spring semester.

Summer semester, I will utilize the first 25 hours to compare data from mother and father. The data for comparison will be; Dyadic Adjustment Scale, the Partner questionnaire and LSI interview answers each partner reported about the quality of their relationship. This comparison will assist me in determining the buffering effect (moderator) on the mother's stress (independent variable).

An additional 25 hours will be used to create data files from NNNS exams whose parents have been selected for this project. I will use these scores to run a factor analysis to reduce the individual measures into broader categories specifically looking at measures of reactivity and attention scores given after the exam.

Once all of the results are compiled, the next 40 hours will be used to combine all data and create profiles for each triad. I will look at results of the triads to determine any correlation between father buffering mothers stress and newborn outcomes. This will be done by comparing results from the independent variable and the moderator to the NNNS reactivity and attention scores (dependent variable) in a linear regression analysis.

The last 30 hours will be used to analyze and write up a report on the project findings. I will also create a presentation poster for future symposiums. I expect to complete this project by end of Summer semester in August 2019.

Relationship of the Proposed Work to the Expertise of the Faculty Mentor

██████████ PhD is an assistant professor in developmental psychology at the University of Utah and the director of the ██████████ Lab. Her research focuses on the effects of prenatal and early life stress, exposure to prenatal stress and epigenetics,

and newborn developmental outcomes. I have been a research assistant in the [REDACTED] lab since June of 2018 working primarily on the [REDACTED] Study for which she is the Principal Investigator. Dr. [REDACTED] facilitates a supportive environment and provides hands on experience for her research assistants. She holds meetings every week where we discuss topics related to the research we are interested in and she answers any questions about educational goals. She has been supportive in furthering my knowledge and understanding of the research. Dr. [REDACTED] continues to be excited to accompany me in this unexplored area of father related research.

Relationship of the Proposed Work to Student's Future Goals

Working in the [REDACTED] Lab has given me the opportunity to see research in action. Before my research assistant position, I was unsure if I wanted to include research into my career goals. Now, after four months in the lab, I feel this is a great way to gain a deeper understanding of the human mind and condition.

As a psychology major, working on this project would benefit my future goals in several ways. The first benefit is learning how to design and complete a research project from beginning to end while working with an experienced researcher, Dr. [REDACTED]. This opportunity will give me a good foundation to investigate other research questions at the University of Utah as an undergraduate student and later in graduate school. Second, this project will benefit my future goal in becoming a clinical psychologist. Comparing interviews from both partners will give me insight into relationship dynamics that I would not otherwise have access to as an undergraduate. Third, this project will provide opportunities to discuss my findings with other research personnel at the undergraduate research symposium. Presenting my research at this activity will provide me with helpful feedback and exposure.

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