

Relationship Distress and Racial Disparities in Birth Outcomes:  
A Biopsychosocial Perspective

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Running Head: BIRTH OUTCOMES

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Introduction

The Promoting Child Welfare: Training Professionals to Support Healthy Marriages, Relationships, and Families grant, aims to improve the ability of researchers and practitioners to gain a better understanding of the factors that lead to relationship and marital stability and satisfaction (Syracuse University, 2005). The impetus for improving these marriages and relationships is child well-being. Research indicates that children who have the benefit of living with their married, biological parents tend to be sheltered from a number of detrimental circumstances (Moore, Jekielec, & Emig, 2002).

By comparison, children who are born to unmarried mothers face increased risk of poverty, are likely to live in a single-parent household, and lack stability in their living arrangements. Children of divorce have demonstrated increased risk for problems in school, depression, and antisocial behavior. Children who live with a stepparent continue to be at an increased risk of lesser well-being (Moore, Jekielec, & Emig, 2002). Given the significant benefits that are associated with marriage and child well-being, efforts to increase our understanding of the circumstances that foster marriage and marital stability seem justified.

However, it is important to note that an intact marriage is not a panacea against poor child outcomes. For example, when parents fail to manage marital conflict in an effective manner, we observe an increase in the occurrence of the same risks associated with children of divorced parents (Buehler, Krishnakumar, Stone, Anthony, Pemberton, Gerard, & Barber, 1998; Cummings, Goeke-Morey, & Papp, 2003; Davies & Forman,

2002). While it is well established that marital functioning, or the lack thereof, has a significant impact on children's psychological adjustment and sociability, an aspect of parental influence on child well-being that is much less understood is the impact that the relationship between mother and father might have on the child at its earliest stages of development: in-utero and at the time of birth.

The child well-being indicators of interest in this proposed research are birth outcomes (e.g., infant mortality, low birth weight, very low birth weight, preterm labor, and retarded fetal development). In particular, the proposed research will focus on these birth outcomes for black infants, who face extraordinary risks for poor birth outcomes when compared to any other racial group (Miniño, Arias, Kochaneck, Murphy, & Smith, 2002).

To gain a better understanding of these disparities and the factors that contribute to them, this will develop a conceptual framework utilizing the Biopsychosocial Model that will assist both researchers and practitioners in better understanding the complex interplay of factors both internal and external to the infants' families that contribute to these disparities (see Engel, 1980).

One area in particular, highlights the need for improved understanding of how society and family level factors have an impact on the physiological functioning of expectant black mothers and their babies. Low-income, inner-city women are particularly vulnerable to the negative effects of stress, low self-esteem, and often lack social supports. These factors often contribute to depression. Black women, who constitute the majority of women living in low-income inner cities, are particularly vulnerable. Negative birth outcomes such as pre-term labor, retarded fetal development,

and low birth weight have been linked to depressive symptomatology, adding psychological risks to the medical and SES risks already faced (Orr, James, & Blackmore-Prince, 2002; Dunkel-Schetter, Wadhwa, & Stanton, 2000; Sanders-Phillips & Davis, 1998; Ritter, Hobfoll, Lavin, Cameron, & Hulsizer, 2000; Hoffman & Hatch, 2000). The proposed research would investigate further to identify research that might help illuminate the role that marital/couple relationships play in the development or maintenance of this depressive symptomatology.

Lastly, this conceptual model will explore the benefits that could be obtained by providing access to mental health interventions (e.g., premarital/marital psychoeducation, family or couple therapy) as an integral part of the array of prenatal services that are already offered to at-risk mothers.

### *Biopsychosocial Model*

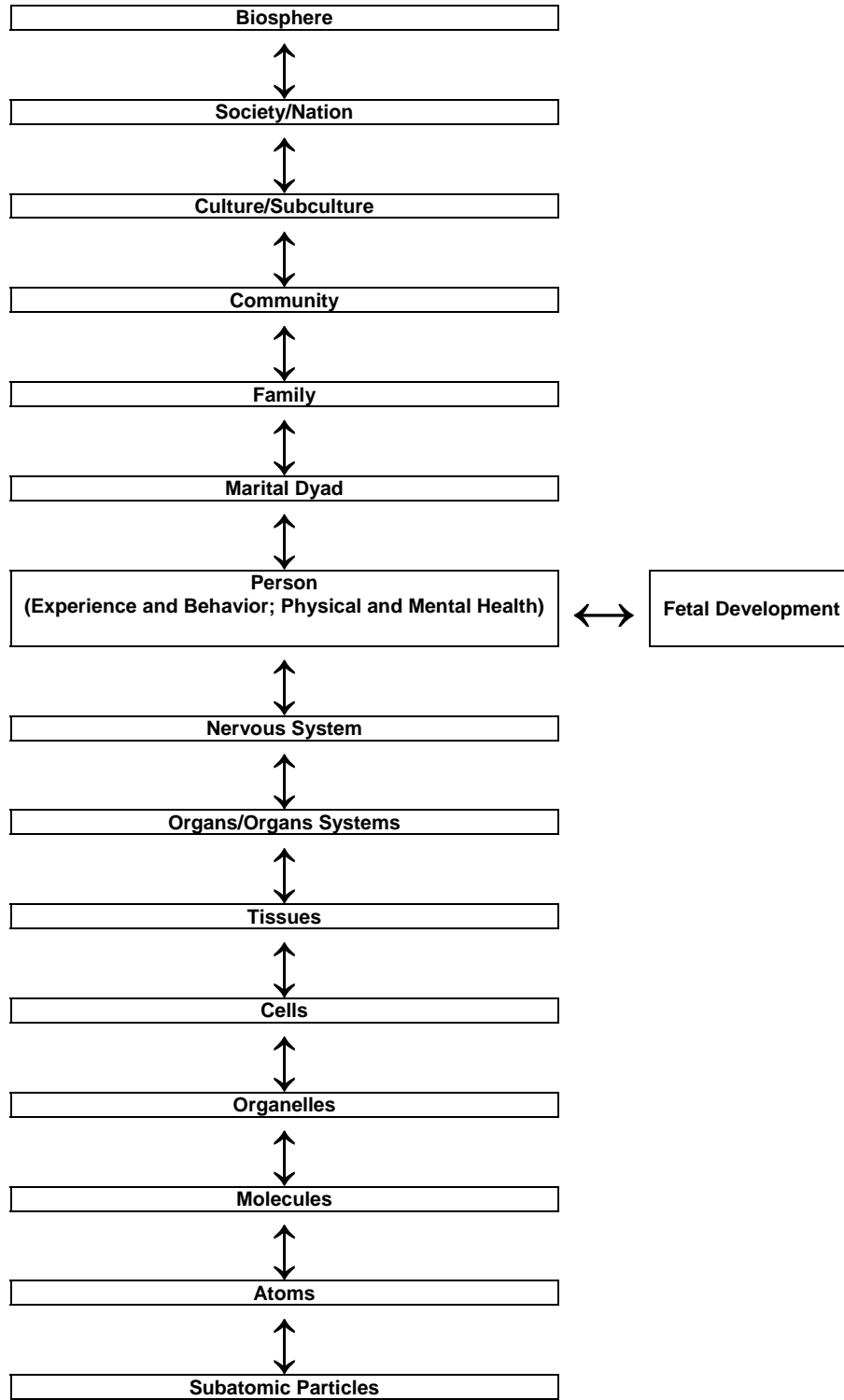
In order to understand the influence that the marital relationship has on birth outcomes, it is first necessary to understand the systemic linkages between the marital dyad and the child as it develops in utero. The biopsychosocial model first gained attention in 1977 when it was presented to physicians as an alternative to the traditional biomedical model (Engel, 1977). The biomedical model holds that the mind and body are separate from one another, existing along side on another without mutual influence. The biomedical understanding/diagnosis of illness and disease is reached through reductionist techniques, starting with the observation of “symptoms, to clusters of symptoms, to syndromes, and finally to diseases with specific pathogenesis and pathology” (p. 131). While recognizing the great advances in medicine that resulted from the use of the biomedical model, Engel (1977) contended that the biomedical model

failed to fully explain illness and disease. For example, the biomedical model failed to adequately explain the genesis and progression of mental illness. Nor did it explain why individuals with the same illness would often respond differently from one another. Furthermore, the biomedical model failed to explain how influences in the external environment of the patient, or the patient's state of mind, would often appear to influence the course of the illness (1977; Engel, 1980). The biopsychosocial model sought to understand the patient in context, as a part of a larger complex biosphere where the patient's internal systems were engaged in a mutually influential interaction with factors and influences external to the patient. Perhaps directly, or through a biological or environmental intermediary, the body influences the mind, and the mind influences the body (Engel, 1977 & 1980).

#### *Biopsychosocial Influences and Birth Outcomes*

The biopsychosocial model is helpful in understanding how the affective experience of a mother has the potential to influence the fetal development of her child (see Figure 1). Maternal stress and anxiety has been associated with a number of biological processes that in turn have the potential to influence in utero development (e.g. reduced immune status, appetite disturbance, reductions and increases in hormones required for growth) (Hoffman & Hatch, 2000). For example, mothers of lower socioeconomic status (SES) who experienced depression during pregnancy were found to give birth to babies with retarded fetal growth. However, babies born to higher SES mothers who also experienced depression during pregnancy, did not suffer from retarded fetal growth (Hoffman & Hatch, 2000). Thus, we observe that the maternal mental status

**Figure 1: Systems Hierarchy/Levels of Organization and Fetal Development  
(Adapted from Engel, 1980)**

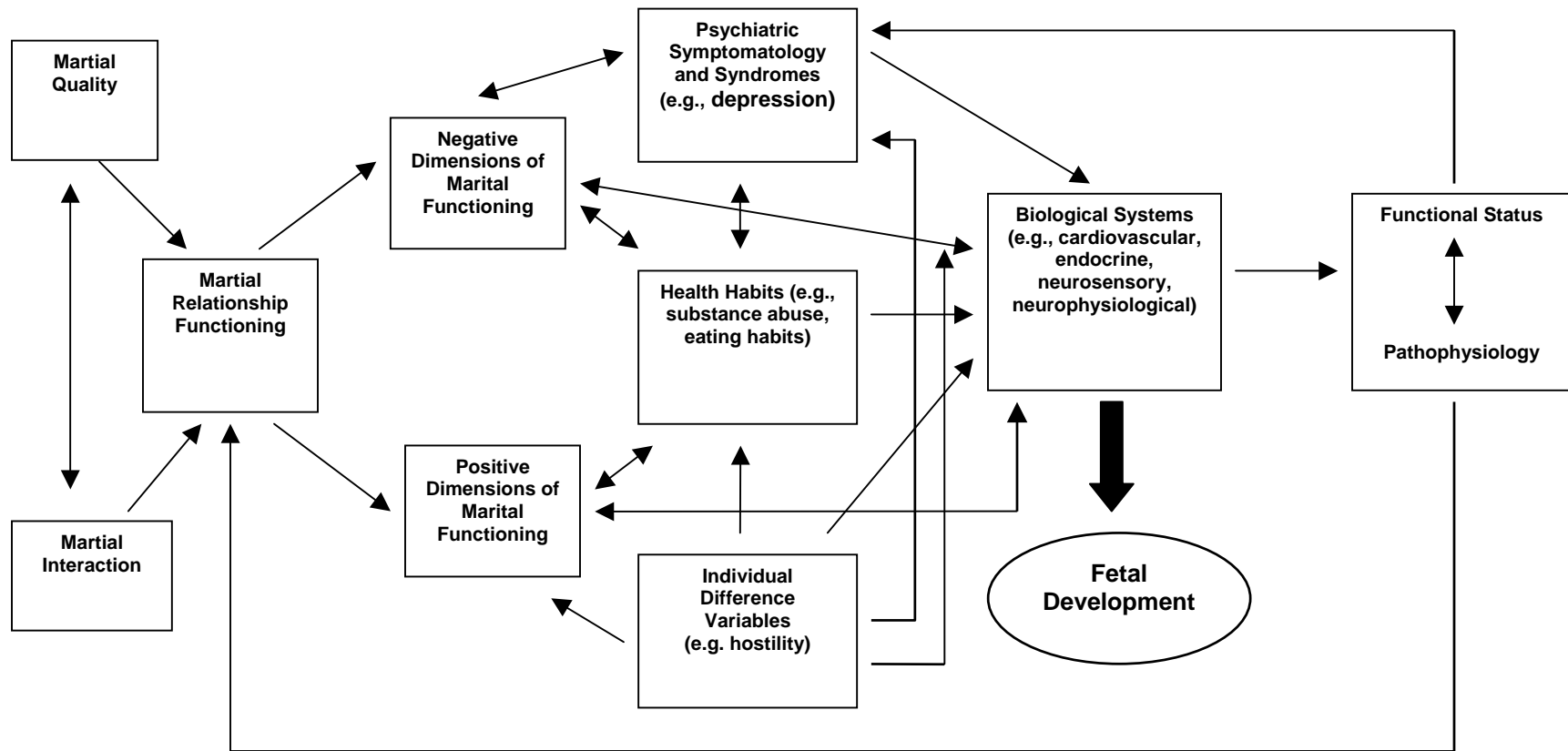


has the potential to influence fetal development. However, this relationship is moderated by SES and biological processes, factors both internal and external to the mother. Other research highlights the impact of depression on Black mothers of lower SES. These mothers were much more likely than their White counterparts to be at risk for low social support and preterm birth (Orr, James, & Prince, 2002; Ritter, Hobfoll, Lavin, Cameron, & Hulsizer, 2000). While extant research fails to address the impact that marital/couple relational functioning has on the health of expectant mothers and their babies, other research on marriage and health provides additional guidance on how to best conceptualize its potential influence.

### *Marriage and Health*

Marital status and quality have been identified as having an influence on hormone levels and immune function. For example, poor conflict management in marriage, as well as divorce and separation, has a detrimental effect on immune functioning (Booth, Carver, & Granger, 2000). Based upon a review of 64 articles published over the course of a decade, researchers explored in depth the pathways leading from the marital relationship to physical health outcomes. The results of this review provide a model with 20 different pathways through which the mutually influential relationship between the marital relationship and physical health functions (Kiecolt-Glaser & Newton, 2001). The model reveals a complex and multidirectional relationship between: gender, marital quality, marital interaction, marital functioning, positive and negative aspects of marital functioning, mental health, health habits, individual differences, biological systems, functional status, and pathophysiology, providing strong support for a biopsychosocial approach to the understanding of intimate relationships and health. This model is very

**Figure 2: The impact of the marital relationship on individual health and fetal development (adapted from Kiecolt-Glasser & Newton, 2001)**



useful for conceptualizing the potential influence of the marital relationship on maternal health and fetal development. Utilizing this model, Figure 2 demonstrates how the moderated impact of the marital relationship on the mother's biological system in turn, potentially influences fetal growth and development.

#### *Marital/Couple Intervention and Birth Outcomes*

The biopsychosocial model, bolstered by research findings that identify the influence of maternal mental health on growth and development in utero, and by research that identifies the influence of the marital relationship on mental and physical health, leads us to be concerned and curious about how efforts to strengthen the marital/couple relationship may lead improved birth outcomes. These improved birth outcomes are of particular importance to Black infants, whose mothers face increased psychological and social risk (Miniño, Arias, Kochaneck, Murphy, & Smith, 2002; Orr, James, & Prince, 2002; Ritter, Hobfoll, Lavin, Cameron, & Hulsizer, 2000).

Research evidence indicates that existing marital therapies and psychoeducational approaches have the potential to create significant and lasting improvements in the marital relationships of those who receive them (Cloutier, Manion, & Walker, 2002; Jakubowski, Milne, Brunner, & Miller, 2004). Given the potential benefit of these psychosocial interventions, especially to Black mothers and their infants, this proposed research seeks to examine the impact of including marital/couple interventions as part of the prenatal care services that are presently made available to at-risk mothers. When accessing prenatal care, Black mothers tend to discover that the prenatal care they are provided is often not adequately responsive to their unique needs and challenges (Sanders-Phillips & Davis, 1998). Additionally, even when Black mothers do not face

increased risk due to SES factors and receive adequate prenatal care, they still continue to face poorer birth outcomes (Alexander, Kogan, Himes, Mor, & Goldenberg, 1999; Schoendorf, Hogue, Klienman, & Rowley, 1992).

*Research Questions*

Given the demonstrated impact of maternal mental health on fetal development in at risk mothers, and the linkages between marital quality and physical and mental health, research must now inquire as to the impact that these linkages have on birth outcomes, especially for Black mothers, whose babies face the greatest risk. What role might marital/couple interventions play in helping Black mothers obtain greater benefit from prenatal care? Do mothers and fathers who receive treatment, have improved birth outcomes? Does therapy vs. psychoeducation yield a different level of benefit?

The proposed research seeks to answer these questions. Information obtained through this research endeavor will provide additional insight into the racial disparities in birth outcomes. It will also provide valuable information about whether or not these marital/couple interventions are well suited to meeting the special needs of at-risk mothers.

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