Researchers have hypothesized that the impact of environmental risk on infants and young children may be mediated by the impact of environmental risk on mothers. Epidemiological surveys have found high-risk environments to be associated with depression in adults. Further clarification about the factors which may exacerbate or alleviate the impact of environmental risk on maternal mental health is needed. This analysis was designed to investigate the effects of multiple environmental risks and social support on maternal depression. Mothers of young infants (N=124) were recruited during well-baby visits at pediatric clinics and are participating in a longitudinal study of parenting and infant development. When the infants were 7 months of age, mothers completed demographic and self-report questionnaires, including measures of depression and social support. An environmental risk score was computed for each mother based on demographic factors and life events. Findings indicated that maternal depression was positively correlated with environmental risk score. The impact of social support on the relation between environmental risk and depression was also examined. These findings indicated that mothers' perceived need for social support had an additive effect on depression when combined with environmental risk, resulting in elevated levels of depression. Environmental risk approached significance as a moderator of satisfaction with social support and depression for mothers who reported fewer environmental risks.

(Author/EV)
THE IMPORTANCE OF CONTEXT AND SOCIAL SUPPORT IN MODERATING DEPRESSION IN MOTHERS OF YOUNG INFANTS

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Michigan Family Study
University of Michigan

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Abstract

Previous research has demonstrated the negative effects of high risk environments on child outcomes. Researchers have hypothesized that the impact of environmental risk on infants and young children may be mediated by the impact of environmental risk on mothers. Epidemiological surveys have found high risk environments to be associated with depression in adults. Further clarification about the factors which may exacerbate or alleviate the impact of environmental risk on maternal mental health is needed. The current analysis was designed to investigate the effects of multiple environmental risks and social support on maternal depression.

Mothers of young infants (N = 124) were recruited during well-baby visits at pediatric clinics and are participating in a longitudinal study of parenting and infant development. When the infants were 7 months of age, mothers completed demographic and self-report questionnaires including measures of depression and social support. An environmental risk score was computed for each mother based on demographic factors and life events. Maternal depression was positively correlated with environmental risk score. The impact of social support on the relation between environmental risk and depression was also examined. Mothers' perceived need for social support had an additive effect on depression when combined with environmental risk, resulting in elevated levels of depression. Environmental risk approached significance as a moderator of satisfaction with social support and depression for mothers who reported fewer environmental risks.

Introduction

The negative effects of high risk environments on infant and child development have been well documented (Sameroff & Seifer, 1995). Increased levels of environmental risk have been shown to negatively effect the social and emotional development of young children (Sameroff & Seifer, 1995). This relation is due in part to the devastating effects high risk social environments frequently have on the parents of infants and young children. Contending with multiple environmental risks such as poverty has been associated with increased levels of parental psychological distress (McLoyd, 1995).

Maternal depression is frequently cited as one important risk factor leading to negative social and emotional developmental outcomes in infancy (Weinberg & Tronick, 1998). Maternal depression has
been associated with poor infant outcomes in part due to the impact of mothers' negative perceptions of their infant on mother-infant interactions (Field, 1995).

Because of the significant impact of maternal depression on child development outcomes, more attention is needed in the literature to identify potential factors which may serve to moderate, or alternatively, to exacerbate the link between environmental risk and maternal depression. Social Support is one factor which has been proposed as a potential protective mechanism against depression in mothers (Olson, et al., 1994). The literature differentiates between the moderating effects of the amount of social support, the level of satisfaction with social support and the perceived need for social support.

The present investigation examines the effect of satisfaction and perceived need for social support on the relation between environmental risk and reported maternal depression. We hypothesized that mothers who experience higher levels of environmental risk will also report higher levels of depression and that distinct aspects of social support may impact this relation differently.

Research Questions

- What is the impact of multiple risks on depression in mothers of young infants?
- Do satisfaction and perceived need for social support play different roles in explaining the relation between environmental risk and depression?

Method

Participants:
- A community sample of 124 healthy, full-term, 7-month-olds and their mothers
- 76% European Americans; 16% African Americans; & 8% Other (Latino, Asian, Bi-Racial, Other).
- Household income ranged from under $5000 to over $100,000.
Procedures
Trained interviewers collected the demographic data, along with several other measures, during a 1½ hour visit to the participant’s home. Questionnaires were left for the mothers to fill out on their own that included measures of mental health, social support, and life events.

MEASURES

Maternal Depression
- **Center for Epidemiologic Studies Depression Scale (CES-D)** (Radloff & Wells, 1977) is a 20-item scale used to screen for depressive symptoms. Scores range from 0 to 60, with scores of 16 or higher indicating depressive symptoms.

Social Support
- **Social Support Functions Scale** (Dunst & Trivette, 1988) was used to assess parents’ need for different types of assistance. The items measure the need for emotional, material, instrumental, social participation and informational assistance.
  - **NetHelp** (Boukydis, 1987) Assesses the function, structure and satisfaction with both formal and informal sources of support.

Environmental Risk Score
- Receipt of federal aid (AFDC, Medicaid, public housing, SSI, food stamps, WIC)
- Highest occupational status in household unskilled/semiskilled job
- Mother’s education less than high school/GED
- Single-parent headed household
- 3 or more children under 5 years of age in the home
- Maternal minority status
- Mother experienced 5 or more major life events in the past year
Results

- A positive relation was found between cumulative risk and depression (Table 1). Mothers experiencing more than 3 risk factors reported significantly higher levels of depression than their low risk counterparts (Graph 1).

- Mothers’ perceived need for social support was found to explain a significant portion of the variance in depression beyond that accounted for by environmental risk (Table 2).

- Mean social support satisfaction scores were computed for each mother and median splits were used to compose high and low support satisfaction groups. The environmental risk score was used to divide mothers into high risk (> 3 risks) and low risk (≤ 3 risks) groups. A main effect for level of risk on depression was found. Regardless of satisfaction with social support, mothers in the high risk group were more depressed than mothers in the low risk group. A moderating effect was found for risk group on depression. There was a trend for mothers in the low risk group who were satisfied with their social support to report less depression than mothers who were not satisfied. For mothers in the high risk group, satisfaction with support did not impact maternal depression (Graph 2).
Table 1. Pearson Correlations: Multi-Risk Score, Satisfaction Social Support, Perceived Need Social Support, Depression

<table>
<thead>
<tr>
<th></th>
<th>Environmental Risk Score</th>
<th>Satisfaction Social Support</th>
<th>Perceived Need Social Support</th>
<th>Depression</th>
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<td>Environmental Risk Score</td>
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<td>Satisfaction Social Support</td>
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<td>Perceived Need Social Support</td>
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<td>.078</td>
<td></td>
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<tr>
<td>Depression</td>
<td>.26**</td>
<td>-.041</td>
<td>.24**</td>
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*p<.05  **p<.01

Table 2. Hierarchical Regression Analysis Predicting Maternal Depression

<table>
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<tr>
<th>Predictors</th>
<th>Overall $R^2$</th>
<th>Change in $R^2$</th>
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<tr>
<td>Environmental Risk Score</td>
<td>.077</td>
<td>--</td>
<td>.225*</td>
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<td>Perceived Need Social Support</td>
<td>.123</td>
<td>.046</td>
<td>.22*</td>
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*p<.05  **p<.01
Graph 1.

Cumulative Risk and Maternal Depression

Note: Clinical cutoff ≥ 16

Level of Depression

Number of Risk Factors
Graph 2.

Impact of Risk and Social Support on Depression

Level of Depression

Low Risk

High Satisfaction

Low Satisfaction

High Risk

Satisfaction with Social Support

High Satisfaction

Low Satisfaction
DISCUSSION

with previous research findings, our results support the hypothesis that environmental risk is an important factor in predicting maternal depression. Mothers who are living in high-risk environments often experience a number of stressors including poverty, unsafe housing, single motherhood, dangerous neighborhoods, and difficulty in meeting other basic needs for themselves and their families. These high risk environments can lead to mothers feeling less efficacious in their parenting abilities and can inhibit their ability to function in the completion of daily living tasks. The presence of mounting environmental stressors can result in increased levels of maternal depression as parents struggle to meet the basic needs of their families while also attempting to parent effectively. The current results are consistent with a large body of research implicating environmental stress in the development of maternal mental illness and poor child outcomes. The nuances of the pathways of causation from high risk environments to maternal mental health and child outcomes continues to be an important area of study from both a research, clinical and public policy perspective.

Perceived need for social support was found to be an additional risk factor for maternal depression in mothers of young children. In this additive model, need for social support explained level of depression beyond environmental risk. It may be that mothers who are depressed report much higher needs for social support than non-depressed mothers due to their overwhelming need for assistance and support in both the daily living and childcare arenas. It is also possible, however that this result reflects informant bias.

Environmental risk was found to approach significance in moderating the relationship between satisfaction with social support and depression. For high-risk groups, satisfaction of social support did not affect levels of depression. However, for mothers experiencing low levels of environmental risk, level of satisfaction with social support had a moderate negative relationship with depression. Our results support the hypothesis that environmental risk is in fact an important factor in maternal depression. Further, research has found that high levels of maternal depression lead to poorer child development outcomes. It may be that social support alone does not act as a protective factor for depression for mothers who are experiencing increased levels of environmental risk. This indicates that in order to effectively reduce depression in mothers’ living in high risk environments, intervention will have to take a multi-level approach to be effective. This model of intervention might include therapy, medication, case management, as well as assistance in building a social support network.
The Importance of Context and Social Support in Moderating Depression in Mothers of Young Infants

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