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DOES CHRONIC ILLNESS INCREASE CHILDREN'S RISK FOR IMPAIRED PEER RELATIONSHIPS? A LONGITUDINAL EXPLORATION OF THE RELATIONSHIP BETWEEN CHILDHOOD ASTHMA AND SOCIAL VULNERABILITY

by

Mary Fran Flood

A DISSERTATION

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DISSERTATION TITLE

Does Chronic Illness Increase Children's Risk For Impaired Peer Relationships? A Longitudinal Exploration of the Relationship Between Childhood Asthma and Social Vulnerability

BY

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GRADUATE COLLEGE
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DOES CHRONIC ILLNESS INCREASE CHILDREN'S RISK FOR IMPAIRED PEER RELATIONSHIPS? A LONGITUDINAL EXPLORATION OF THE RELATIONSHIP BETWEEN CHILDHOOD ASTHMA AND SOCIAL VULNERABILITY

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University of Nebraska, 1998

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This study investigated the social vulnerability of children with asthma in a large, longitudinal, national sample. Data from the 1994 National Longitudinal Survey of Youth Child Sample (NLSY-C) were analyzed to identify differences in the quality of peer relationships between children with asthma and a comparison group of healthy peers. The 1994 NLSY-C sample consists of 6,974 children younger than 15 years old who were available for interview and assessment in 1986, 1988, 1990, 1992, or 1994. In the current study, 262 children with asthma and a matched comparison group of healthy peers between the ages of 4 years and 14 years in 1994 were selected from the 1994 NLSY-C. The study explored ways in which specific child (gender), family (financial status and emotional support), and illness

(degree of medical limitation) characteristics were related to social vulnerability, and described those relationships over a four-year time period between 1990 and 1994. In addition, it examined the degree of congruence between mother and child reports of social vulnerability.

Results suggest that children with chronic illness, in general, are at no greater social risk than their healthy peers. Factors associated with social risk appear to differ for children with asthma and their peers, and the extent of medical limitation may be related to chronically-ill children's vulnerability. Increased family support and economic opportunity may function as protective factors for children, whether or not they have a chronic illness. In addition, the current findings indicate that, despite moderate stability, there are significant changes in social vulnerability over time. Results augment recent evidence that mothers and their children view the quality of the children's social relationships differently, and provide substantial support for the growing belief among pediatric psychologists that multi-method, longitudinal studies are needed to improve understanding of how children cope successfully with illness.

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In the last decade, researchers and clinicians concerned with the psychosocial dimensions of childhood chronic illness have increasingly suggested that peer relationships may be particularly salient for children with chronic physical conditions, and that improved understanding of social factors may lead to helpful interventions (La Greca, 1990, 1992). La Greca (1990) urged pediatric psychologists to consider the protective function of peers as well as the risk to peer relationships associated with illness, and there has been some promising investigation of the effects of social support for children with cancer (Varni, Katz, Colegrove, & Dolgin, 1994), diabetes (La Greca et al., 1995), and limb deficiencies (Varni, Setoguchi, Rappaport, & Talbot, 1991). However, the majority of research has investigated whether children with chronic illness are likely to be socially vulnerable, that is, whether they are at increased risk for problems with their peer relationships.

The results of these efforts have been somewhat unsatisfying. There has been no clear answer to the question of whether children with chronic illness are more vulnerable to relationship difficulties than are their healthier peers. In some cases, empirical findings have suggested increased social risk for children with illnesses, and, in others, no differences in the quality of peer relationships have been demonstrated. More important, there is little understanding of the nature of social vulnerability for these children. Exploration of the factors that are likely to interact with chronic illness to influence risk or protection has relied on small samples of convenience and inadequate controls. The majority of studies have evaluated peer relationship quality from the viewpoint of a single reporter, and so it is unclear how much the perception of peer relationship quality varies across informants. Finally, there has been virtually no investigation of changes over time in social vulnerability.

It is likely that some of the equivocal results reported in the current literature can be explained by more thorough investigations of the relationships among child, family, disease, and longitudinal characteristics and social risk. In addition, an understanding of how these factors

influence social vulnerability is a critical foundation for the development of interventions designed to decrease the risk or increase the protectiveness of peer relationships for children with pediatric disorders. The present study is designed to investigate differences in social vulnerability between children with asthma and their healthy peers and to explore relationships between social risk and child, family, and disease characteristics over time.

Studying childhood asthma offers a particularly good opportunity for exploring questions about the social needs and adjustment of children with chronic illness. Asthma is the most common childhood chronic illness, and its prevalence, severity, and associated mortality risk are increasing (Fritz et al., 1996). There is no real cure for asthma, and so treatment is intended to limit interference with children's lives and to reduce the likelihood of severe episodes or long-term complications (Eiser, Havermans, Pancer, & Eiser, 1992). Thus, the impact of the disorder on social life and the influence of social relationships on treatment adherence, stress management, and general coping resources are particularly relevant. Having asthma may impact social functioning because managing its symptoms requires life style modifications and disruptions of typical

daily routines (Nassau & Drotar, 1995). In addition, asthma has long been associated with a number of psychosocial characteristics (Creer, Stein, Rappaport, & Lewis, 1992; Nocon, 1991), and the heritage of the now-out-dated view of asthma as a "psychosomatic" disorder may continue to create social stigma. Children with asthma are also heterogeneous with respect to disease severity and symptom expression (Lemanek, 1995), and so the effects of variable, illness-related characteristics on social functioning can be investigated within the single disease entity.

Peer Relationships Among Children with Chronic Illness

Theoretical perspective. The peer system provides an important context for children to develop communication, social problem-solving, and relationship building skills (Hartup, 1989; Miller & Wood, 1991; Parker & Asher, 1987). However, researchers and clinicians have begun to suggest that peer relationships may constitute a "special vulnerability" for children with chronic physical conditions, such as asthma (Creer, Stein, Rappaport, & Lewis, 1992; Drotar, 1981; Hoffman, Rodrigue, Andres, & Novak, 1995; La Greca, 1990, 1992; Rodrigue, Streisand, Banko, Kedar, & Pitel, 1996). The vulnerability hypothesis posits an elevated risk in one or several areas of social

functioning rather than suggesting causal relationships between illness and social maladjustment. In La Greca's (1990) view, "youngsters with chronic illness may be at increased risk for developing relationship difficulties, but peer problems per se are not likely to characterize children with chronic disease" (pp. 288-289). Thus, children with pediatric disorders, on average, might be expected to rank between healthy and clinically referred youngsters on measures of social competence. This hypothesis parallels the conclusion of research on the general psychosocial adaptation of children with pediatric conditions (e.g., Drotar, 1981; Lavigne & Faier-Routman, 1992; Wallander, Varni, Babani, Banis, & Wilcox, 1988). However, in contrast to the psychological adjustment literature with its theoretical models of adaptation (Thompson, Gustafson, Hamlett, & Spock, 1992a, 1992b; Wallander & Thompson, 1995; Wallander& Varni, 1992, 1995), scholars of social vulnerability have not yet generated coherent theories about the pathways by which disease may negatively affect children's peer relationships. Nor has there been a clear theoretical discussion about mechanisms of change in either the paths of influence or the quality of peer relationships.

Instead, pediatric psychologists have posited several hypotheses about why peer relations may be problematic for children with physical conditions (Hoffman, Rodrigue, Andres, & Novak, 1995; La Greca, 1990, 1992; Nassau & Drotar, 1995; Rodrigue, Streisand, Banko, Kedar, & Pitel, 1996; Spirito, DeLawyer, & Stark, 1991). First of all, many conditions limit the opportunities for peer contact. Involvement in normal childhood activities may be restricted because of physical risk or disability, and frequent medical appointments or treatments may disrupt play or create absences from school, sports, or organizations. Chronic illnesses often require life style modifications, such as additional rest periods, dietary accommodations, or routine avoidance of risk conditions. Secondly, family influences may exacerbate the effect of illness on social relationships. For instance, parents may restrict a child's activities because of the parent's perception that the child is physically vulnerable (La Greca, 1990). Self-perceived stigma may influence peers negatively as well. Children with illnesses who were interviewed about their peer relationships reported feeling "different" from their peers in a group of 10 studies reviewed by Spirito and his colleagues (1991). Much of the focus in these reports,

especially for adolescents, was on changes in appearance. Finally, other children may be awkward or uncomfortable with their less healthy peers for a variety of reasons associated with their personal or family knowledge, experience, or beliefs about health, illness, and friendship (e.g., Maieron, Roberts, & Prentice-Dunn, 1996).

Childhood asthma provides several specific examples of the factors associated with chronic illness that may compromise social relationships. For instance, the need to avoid allergens and irritants may lead children with the disease to be unusually cautious around pets or other animals (Nocon, 1991). For similar reasons, they may be reluctant to participate in picnicking, hiking, or other strenuous exercise. They may have difficulty "fitting in" with a peer group because they are fearful about having an attack or because they have learned to demand an inordinate amount of attention in response to solicitous caregivers (Miller & Wood, 1991). On the other hand, some peers may be overly focused on the disorder, treating children with asthma in a protective or highly curious fashion, thus leaving them with feelings of isolation and differentness (Miller & Wood, 1991). Parents of peers may also contribute to the vulnerability by being reluctant to invite children

with asthma to their homes or on family outings because they fear the child may have an attack (Miller & Wood, 1991).

Although these hypotheses suggest important components for a theoretical model of social vulnerability among children with chronic illness, they generally neglect significant aspects of theory construction (cf. Wallander, 1992). In most cases they fail to explain the relative importance of the hypothesized risk mechanisms. They rarely specify the function of specific constructs as risk or resilience factors relative to social vulnerability, and they tend not to delineate relationships among the factors themselves. There is virtually no attention to the effects of change over time on social vulnerability, even though developmental change is a critical consideration throughout pediatric psychology. Part of the reason for the limited level of theory construction in this area may be found in an analysis of the empirical evidence supporting the social vulnerability hypothesis.

The development of a theoretical framework for the social vulnerability hypothesis is limited by the discrepant findings of current studies (Spirito et al., 1991), the methodological constraints of existing studies, and the sparse research directly addressing questions of social

functioning (Thompson & Gustafson, 1996). In a review of 34 studies published between 1967 and 1990, Spirito and his colleagues (1991) found conflicting answers to questions about the differences in quality of peer relationships between children with chronic illness and their healthy peers. Among the 13 studies with adequate comparison groups, there were six findings of no difference between children with illnesses and healthy peers, four findings that children with illnesses had poorer peer relations, and three reports of differences in some areas of social adjustment, but not in others. In addition to the lack of comparison groups in most studies, the majority relied on small samples of convenience and used a single measure of social competence. The quality of peer relationships was not only evaluated using different methods in different studies, it was evaluated by different informants across studies. For instance, some researchers relied on teacher-completed checklists, others used interviews with parents or children themselves, and still others used projective or personality tests. The variability in measures and informants, especially with the typically small sample size makes comparison across studies difficult. There is significant heterogeneity in chronic illnesses studied as well, and so

it is difficult to distinguish the contribution of illness-specific factors. Knowledge about social adjustment among children with chronic illness is often dependent on research in which peer relationships are a secondary, rather than primary, focus and so it is vaguely conceptualized and measured by single, general measures (Nassau & Drotar, 1995; Spirito et al., 1991; Thompson & Gustafson, 1996). In particular, current research is heavily dependent on the Social Competence domain of the Child Behavior Checklist (CBCL, Achenbach & Edelbrock, 1991) as an outcome measure. This index weighs school and activity involvement more strongly than social performance or relationship quality (Thompson & Gustafson, 1996).

In addition to the problems with current studies, there has been no investigation of change over time as it specifically relates to social vulnerability. Thompson and Gustafson (1996) noted that, despite reports of moderate to low levels of stability in longitudinal studies of emotional and behavioral adjustment, there have been few, if any, longitudinal studies of social adjustment. However, there appears to be general agreement among pediatric psychologists that longitudinal research is critical. Wallander (1998, p. 42) advocated that "[l]ongitudinal

designs need to become the norm." Only longitudinal studies can take into account the course of illness and treatment as well as interactions between this history and individual and family development. In addition, Wallander noted that findings from longitudinal studies of psychological adjustment suggest that group risk among children with chronic illness may remain constant, but that changes in individuals appear common.

Empirical evidence. The limited research offers little support for the view that chronic illness alone significantly disrupts social relationships, but there is evidence that, coupled with other factors, chronic illness may constitute the hypothesized vulnerability. Researchers have identified the severity and restrictiveness of the illness, associated disabilities or disfigurement, and family functioning as some of the factors that may interact with chronic illness to increase social risk. The largest, population-based study to explore social problems of children with chronic medical conditions, the Ontario Child Health Study (OCHS), found increased risk when chronic illness was coupled with a disabling condition (Cadman, Boyle, Szatmari, & Offord, 1987). However, children with chronic illness alone had no higher incidence of social

problems than did their healthy peers, at least according to their parents. The study did not investigate whether the children themselves shared this view. An earlier, British study of a nationally representative sample found that children with asthma had significantly more problematic ratings on a measure of social adjustment in school than their peers until researchers controlled for social class and gender (Peckham & Butler, 1978). When class and gender were controlled, asthma did not contribute independently to the variance

Selected sample studies provide similar results. Among 287 families recruited from British self-help groups and newsletter solicitations, children with epilepsy and asthma had more difficulties with peers than children with diabetes, leukemia, or cardiac conditions according to their parents' reports (Eiser, Havermans, Pancer, & Eiser, 1992). However, the heterogeneity of disorders included in the study, the self-selection process, and the resulting small cell size for some disorders made it difficult to test hypotheses about the correlates of higher risk. A study of children with cystic fibrosis (CF) compared with children with other chronic illnesses, primarily asthma, and with healthy peers provided mild support for the vulnerability

hypothesis (Drotar et al., 1981). Children with a chronic illness were more aggressive, inhibited, and socially withdrawn than a sample of healthy peers, and the 47 children with asthma and other respiratory problems consistently demonstrated more serious social problems than either the CF or comparison group children. However, these differences appeared to result from the unusually strong psychosocial adaptation of the healthy youngsters rather than from maladjustment of the children with chronic illnesses, and the illnesses studied were of at least moderate severity, limiting generalizability to children with less serious conditions (Drotar et al., 1981). Another study of 81 children, ages 6 - 14, with asthma, recruited primarily from community pediatric practices found that children with asthma scored within one standard deviation of norms on the Social Competence Scale of the CBCL (MacLean, Perrin, Gortmaker, & Pierre, 1992). These findings may be confounded with socioeconomic status because the children were primarily from a middle-class population (MacLean et al., 1992). No support for the vulnerability hypothesis was found in a small sample study of young children, ages 4 through 8, with sickle cell disease (SCD) (n = 29). Children with SCD demonstrated no differences from a comparison group

of healthy peers or the normative group on measures of social competence (Lemanek, Horwitz, & Ohene-Frepong, 1994). However, the study did not investigate any within-group factors related to social vulnerability for the children with SCD.

Two recent, small-sample studies designed to remedy several methodological problems of earlier research also appear to refute the vulnerability hypothesis. Nassau and Drotar (1995) studied the peer relations of 8- through 10-year-old youngsters with insulin-dependent diabetes mellitus (IDDM) (n = 25), asthma (n = 19), and no history of chronic illness (n = 24) matched on economic status, ethnicity, gender, and age. The children themselves, their teachers, and their primary caregiver (95% mothers) reported on the children's psychosocial functioning, response to problematic peer situations, peer interactions, and perceived efficacy in peer relationships. The social competence of children with IDDM or asthma did not differ from that of their healthy peers on either social skills or social performance measures, and those results were consistent across self-report measures and parent and teacher assessments. However, the authors recommended that the results must be interpreted cautiously because the small sample size limits the power of