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Author

Chanda, Neelam

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The Relations Between Family Environment and Preschool- Aged Children's Experiences in Child Care Centers

by

Neelam Chanda

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Neelam Chanda

ABSTRACT

The purpose of this study was to examine if stressful events, major family and daily events, and family routines are associated with stress experienced by children attending child care centers. The study addressed the psychometric properties of a new instrument, the Child Care Events Questionnaire (CEQ), described the frequency of major life events, daily life events, and child care stressors for children in child care, relationship between stressful events at home and child care, relationship between family routines and stressful events in predicting stress experienced in the child care centers.

This historical cohort study design included two one year cohorts of 145 preschool-aged children attending four urban child care centers. Parents completed the Major Life Events Questionnaire (MLE) and Daily Life Events Questionnaire (DLE) at Time 1 and Time 2 and Family Routines Inventory at Time 1. The Child Care Events Questionnaire was completed by teachers twice monthly to identify potentially stressful experiences for the children.

The psychometric properties of the CEQ showed that the intraclass correlations for 16 items had a coefficient above 0.40. CEQ events were categorized using Neuman's System Model into three indices: intrapersonal, interpersonal and extrapersonal stressors. Correlations showed significant associations between major life events at time 1 and 2 and daily life events at time 1 and 2. No significant correlations were found between the major and daily life events. Child care stress, major life events, daily life events and

family routines explained 7.1% of the variance in extrapersonal child care stressors ($F(3,121) = 3.103$; $p < 0.05$). Children who experienced fewer daily life events at home had significantly more extrapersonal stressors in child care, controlling for family's major life events and routines ($t = -2.293$; $p < 0.05$).

Study implications suggest there is a need for more information about extrapersonal stressors, such as staff changes, and how it impacts the quality of child care services. Recommendations are made for providing educational programs for parents and teachers on helping children deal with stress.

Abbey Alkon

Abbey Alkon, RN, PhD

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Writing this acknowledgement section has been like counting my blessings. I am blessed. I am grateful.

Neelam Chanda

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CHAPTER I: THE STUDY PROBLEM

"He who thus considers things in their first growth and origin, whether a state or anything else, will obtain the clearest view of them."

Aristotle, 450 BC

Stress related problems have become an epidemic in the modern world and have been considered contributory factors in disease etiology since the time of Hippocrates (Chrousos, 1988). Early studies have shown retrospective associations between stress and morbidity (Holmes & Rahe, 1967; Meyer, 1962) followed by studies showing relationships between stressors and disease in both adult and child populations (Dohrenwend & Egri, 1981). Individuals who experience stressful life events in succession seem to be at risk for developing acute physical problems (Winsa, Adami, Bergstrom, Gamstedt, Dahlberg, Adamson et al., 1991), chronic health conditions (Cohen & Williamson, 1991), minor and severe injuries (Passer & Seese, 1983), and psychiatric and behavioral disorders (Rutter, 1989; Werner, 1982).

In 1967, Holmes and Rahe provided one of the first studies of the relationships between major life changes and alterations to health. The authors conceptualized stress as the amount of life change based on life experiences that required the need for re-adjustment. Events such as starting a new job or moving to a new home are associated with a variety of illnesses both physical and psychological in adults (Elliot, 1982). However, strong individual coping strategies (Pearlin, Lieberman, Menaghan, & Mullan, 1981) and available social networks (Cronkite & Moos, 1984) have been shown to modify the effects of stressful responses and decrease the likelihood of illnesses in adults. Because children perceive, remember, and respond to stressful experiences differently than adults as a result of their developing coping skills (Lazarus, 1984; Pearlin &

Schooler, 1978), it is important that their responses be studied separately from those of adults.

The following section reviews the impact of stressful life events in childhood, the importance of studying hassles as a factor of stress, and the role of routines as a buffer in mitigating the effects of stressful life events.

The Impact of Stressful Life Events in Childhood

Although few in number, studies of children on the relationship between stressful life events and development of both physical and psychological illnesses have yielded similar results to that of adults as discussed above. A study by Green (1958) of children with leukemia showed that stressful events such as change of residence or school, death of a parent, or separation from grandparents had occurred more frequently for leukemic children 2 years prior to the onset of disease compared to children without leukemia. (Coddington, 1972) introduced the concept of life change units to study the impact of a stressor on children. They studied healthy children who had been hospitalized the previous year and found that hospitalized children had markedly higher life change scores than those who had not been hospitalized. Two studies (Hall & Farel, 1988; Webster-Stratton & Hammond, 1988) examined the relationship between maternal stresses and child behavior. Campbell and colleagues reported that persistent problems in a cohort of hard-to-manage preschool-aged children were predicted by continuing family stress and change (Campbell, Breaux, Ewing, Szumowski, & Pierce, 1986; Campbell, Pierce, March, Ewing, & Szumowski, 1994). Persistent problems were found to be associated with a range of family and parenting factors and other child characteristics.

Hassles and Their Importance

Hassles, have been defined as "irritating, frustrating, distressing, demands that to some degree characterize everyday transactions with the environment" (Kanner, Coyne, Schaefer, & Lazarus, 1981). Hassles can be perceived as a challenge. When hassles are viewed positively, they are called "uplifts" (Lazarus, 1984). Examples include viewing a stressful situation or an event, such as taking an examination, as a challenge, viewing it positively and doing one's best in that particular situation. Alternatively, when viewed negatively, hassles can be considered a threat and can be potentially harmful to the individual.

Family Routines: Concept and Importance

During the earliest years of life, a child learns about the world by having social interactions with parents and other family members as part of daily routines like getting dressed and eating dinner. Routines help to organize family life, define family roles, and provide members a sense of belonging within the family (Wolin & Bennett, 1984). Research suggests that adherence to routines contributes to family stability and continuity (Fiese, 1993) and serve as a protective function against risk factors such as stressful life events (Boyce, Jensen, James, & Peacock, 1983). Children learn social skills (for example, turn taking) that promote social relationships and empathy. They also begin to learn the beliefs, values, and practices of their family and culture (Bossard, 1950; Fiese, 1993; Rogoff, 1993). Because previous studies have not examined the role of family routines in reducing the effects of stress on children, the present study aims to investigate the role of family routines as it is related to stress as experienced by preschool-aged children in child care centers.

Statement of the Problem

Considering the background of the problem, the present study is stated as, "The Relations Between Family Environment and Preschool- Aged Children's Experiences in Child Care Centers"

Study Purpose

The purpose of this research is to expand on existing knowledge of stress for preschool-aged children in child care centers, family stressors, and family routines. Specifically, this study will examine whether stressful life events, and daily life hassles in a family, influence stress experienced by preschool-aged children in child- care settings.

This study uses a historical prospective design and is a secondary data analysis of data collected as a part of the Preschool Health Project (PHP), which was designed to study the effects of stress and cardiovascular reactivity on the incidence of injuries and respiratory illness in preschool – aged children attending child care centers. The PHP study design, methods, and results are described in (Boyce, Chesney, Alkon, Tschann, Adams, Chesterman et al., 1995), (Alkon, Genevro, Tschann, Kaiser, Ragland, & Boyce, 1999), (Alkon, Ragland, Tschann, Genevro, Kaiser, & Boyce, 2000). Although data on family routines and stress experienced by the preschool-aged children were collected as a part of the original study these variables were not reported in past publications. Hence, the PHP data provides an opportunity to investigate a relationship between family stress (major life events, daily life events) and stress experienced by preschool – aged children attending child care centers.

Research Questions

1. What are the psychometric properties of the Child Care Events Questionnaire (CEQ).

2. What are the most frequently occurring stressful life events, as reported by parents of preschool-aged children?

3. What are the most frequently occurring daily life events as reported by parents of preschool-aged children?

4. What is the relationship between stressful life events and daily life events

5. What is the stability of daily life events between Time 1 and Time 2?

6. What are the most frequently occurring stressors for preschool – aged children as reported by child care teachers?

7. What is the relationship between children experiencing stressful events at home and stressful events in the child care settings?

8. What is the relationship between children experiencing daily life events and stressful events in the child care settings?

9. What is the relationship between family routines and stressful events in the child care settings?

10. Does the relationship between stressful events at home and in child care settings for a child depend upon the family's level of routines?

11. Does family stress (stressful life events, daily life events) and family routines predict child care stress?

Significance

Much of the research on behavior problems in children has focused on risk factors such as low birth weight, temperament and family conditions like dysfunctional family, poor socialization etc. associated with these behavior problems. No previous research, however, has examined the effects of stressful life events and the role of routines in predicting stress in child-care settings in preschool-aged children, and major stressors at home. The Preschool Health Project (PHP) data provides an opportunity to investigate the relationship between daily family routines and stress in child care settings in preschool-aged children. This study will help health professionals, especially nurses, address issues such as stress for children ages 3-5 years with parents and suggest methods of helping children who experienced stressful events to cope. The findings will contribute substantially to existing knowledge by examining if strategies such as family routines help buffer the effects of psychosocial stressors in children, and promote well- being in the preschool years.

Studies using secondary data sets benefit from reduced selection bias. Data results from a secondary analysis can be compromised when variables collected and measurements used to collect data do not accurately represent the constructs of interest for the secondary data. However, some of the instruments used for the present study are still considered often for assessing the variables of interest.

CHAPTER II: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Overview

Time Magazine's June 6, 1983 cover story referred to stress as "The Epidemic of the 80's," as if it were some kind of new plague. Stress and stress related problems have existed for centuries. The concept of stress has been studied in various forms and contexts throughout the centuries (Rice, 2000). Research has shown that overall stress levels in the United States have increased nearly 50% since 1965 (Miller & Rahe, 1997). Eminent researchers in the field of stress have studied the effects of prolonged stress on the body (Lazarus, 1984; Selye, 1976). Children experience stress just like adults. However, the way in which they appraise stress, and respond to it is quite different from that of adults. The purpose of this paper is to review the concept of stress, and to throw light on some of the developmental stressors that could influence the responses of children to stress.

This chapter is divided into six sections. The first section introduces the meaning of stress as a concept. The second section will discuss the historical development of the concept by reviewing works by pioneers in the field, describe the meaning and definitions of the term, and identify specific types of stress. The third section will illustrate some of the theories of responses to stress, namely the physical and psychological responses as proposed by some eminent theorists in the field of stress research. The fourth section will examine various stressors in children that can influence their behavior. The fifth section describes the literature on risk factors and behavior problems in preschool children. Lastly, a summary section is provided.

Meaning of Stress

There is no solid agreement regarding the derivation of the term stress. For example, some sources suggest that the term is derived from the Latin word "stringere," meaning to "hold tightly." Other sources suggest that the term is derived from the French word "destresse" (anglicized to distress), and that the prefix "dis" was eliminated due to slurring. To understand stress, it is helpful to first understand "stressors," or "the agents or demands that evoke a patterned stress response" (Seyle, 1993). Specifically, stressors may be defined as "environmental forces that impinge on the organism; such stressors may be chronic (e.g., poverty), transitory (e.g., noise), or highly idiosyncratic (e.g., a bad relationship with a significant other)" (Katkin, 1993). The stress response by the body is made by the various physical, mental, or emotional demands placed upon it. There are two types of stressors, normative and non-normative. Normative stressors are the common developmental stressors of daily life, such as having a misunderstanding with a close friend or spouse, or getting a poor grade for a course. Non- normative stressors are tragic events that elicit an immediate response such as an acute illness of a family member, or the sudden death of a close friend.

Two states of stress identified in the literature are "distress" and "eustress" (Selye, 1974). "Eustress" occurs when an individual has an extremely positive experience. Examples of experiences "eustress" experiences include a job promotion, a wedding, or winning the lottery. "Distress" is the result of "bad" or "negative" experiences to which one must adapt. Examples of distress include the death of a loved one, the loss of a job, or having a car accident. Both states of stress, namely, eustress and distress produce the same physiological reactions.

Therefore, "stress" consists of the physical responses of the person to these stressors. Depending on one's background and the tasks one engages in, simple stress definitions may include "frustration," "emotional tension," "a problem in concentration," or "muscular tension" (Seyle, 1993). Other experts in the filed have reported words like "anxiety," "emotion," "pressure" and "strain" to be used synonymously with the concept of stress.

Historical Development of Stress

Although the term stress has been in the scientific literature since the 1930s and in the nursing literature since the late 1950s (Lyon, 2000), it has been recognized as having already appeared in different forms early in history, since the time of Empedocles (500-430 BC). He referred matter to be a mixture of elements in harmony with each other. Any disharmony within the elements caused an imbalance in homeostasis. Later Hippocrates (460-375 BC) considered the state of balance to be that of health, and the state of imbalance to be that of as disease. Between 341- 270 BC, Epicurus, stressed the importance of modification of emotional stimuli to increase the quality of life and coined the term "ataraxia" meaning imperturbability of mind. Claude Bernard (1838 AD-1878) who emphasized stability in the internal environment coined the term "milieu interieur." Walter Cannon (1871-1945) described the "fight or flight" reaction where he described the body's responses to stress and emotions. Building on the work of Cannon, was Selye (1907-1982), who described the "general adaptation syndrome" and laid the foundation for other researchers in the field of stress research.

Table 1.

The Development of the Concept of Stress by Pioneers in the Field

Empedocles (500-430 BC)	Matter consists of essential elements and qualities in opposition or alliance to one another.
Epicurus (341-270 BC)	"ataraxia" (imperturbability of mind) as a superior pleasure.
Sydenham (1624 AD-1689 AD)	Symptoms and signs of a disease arise also from the reaction of the patient's system
Claude Bernard (1838 AD-1878)	The "milieu interieur"- stability of the internal environment.
Walter Cannon (1871-1945)	"Homeostasis" Bodily responses to emotions "Flight or Fight reaction"
Hans Selye (1907-1982)	"The General Adaptation Syndrome" which is the body's short term and long term adaptation to stress.

Reference: Adapted from Chrousos, G. P., Loriaux, D. L., & Gold, W. P. (1988). The concept of stress and its historical development. In G. P. Chrousos, D. L. Loriaux, & W. P. Gold (Ed.), *Mechanisms of Physical and Emotional Stress*. New York: Plenum Press.

Definitions of Stress

Nursing, as a discipline, was not alone in recognizing the importance that stress played in health. Other health related disciplines had already begun to contribute to both theory development and empirical testing of the phenomenon of stress and its connection to health and the well being of individuals in terms of emotional and physical discomforts as well as functional ability. Several health–related disciplines (e.g., psychology, social psychology, and medicine have identified stress as an important factor affecting health. Stress has been linked to the onset of diseases, such as cardiovascular conditions, cancer, asthma, ulcerative colitis, skin disorders, etc. In addition, stress has been linked to symptomatic experiences such as headaches, musculoskeletal pain, insomnia, fatigue, and poor concentration. Several well known definitions of stress are given below:

Constraining force or influence (The Merriam Webster's Collegiate Dictionary,1999). Pressure: condition causing hardship, disquiet. (The Oxford English Dictionary,1989). Selye's definition of stress is "the nonspecific response of the body to any demand made upon it" (Selye, 1974) (p.1).

Lazarus and Folkman (1984) define stress as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p.19).

Stress has also been described in a variety of ways to reflect either environmental demand, the person's response to a demand, or factors influencing, and coping responses in relation to, cognitive appraisal (Moos, 1987). The causes of stress are multifarious, and perception, or the ways situations are viewed, is a major instigator of stress. When situations are viewed in a negative, distorted, or illogical manner, the perception can affect emotions, behaviors, physiology, and beliefs adversely (Wells-Federman, 2001).

In summary, stress can be defined as a reaction (positive or negative) to any situation, which is characteristic of all living beings, to different types of stressors. When viewed positively it could mobilize and energize the individual. Alternatively, when viewed negatively it could endanger the physical, psychological, emotional and social well being of an individual.

Types of Stress

Stress has been studied using different categories. There are different types of stress depending on the kind of situation the individual is in. Only four types of stress will be discussed here. They include acute stress, chronic stress, physical stress, and psychological stress.

Acute Stress

Stress plays an important role in the physical and psychological state of human beings and is characterized as the nonspecific response of an organism to any demand placed upon it (Selye, 1973). However, in highly stressful situations, when demands become too extreme, stress often produces a heightened state of physical, cognitive, behavioral, and emotional arousal. Traumatic events can pose particularly significant psychological and physiological threats, challenging a person's perceptions of control over his or her environment and life outcomes (Schrader, 1996).

The most common psychiatric problem after a traumatic event is acute stress disorder. The main diagnostic features of acute stress disorder as defined in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric, 1994). These features generally occur within the first month after the traumatic event and can last from two days to four weeks. In general, the signs and symptoms of acute stress disorder experienced by a person during or after the traumatic event are a subjective sense of numbing, or absence of emotional responsiveness; a reduction in awareness of his or her surroundings (derealization); a feeling of detachment or estrangement from himself or herself (depersonalization); and blocking of traumatic events from his or her memory (dissociative amnesia).

Chronic Stress

The American Psychological Association (Association, 1997) defines chronic stress as the "grinding stress that wears people away day after day, year after year. It's the stress of poverty, of dysfunctional families, of being trapped in an unhappy marriage or in a despised job or career." Chronic stress occurs as a result of an ongoing environmental demand. Chronic stress interferes with the immune system's ability to terminate an inflammatory response, according to findings in the November issue of Health Psychology. Researchers found that chronic stress seemed to impair the immune system's capacity to respond to hormones that are responsible for terminating an inflammatory response following an infection or injury. Chronic stress could influence inflammatory conditions, such as allergic, autoimmune, and cardiovascular illnesses, according to Gregory E. Miller, Ph.D., of Washington University, who summarized findings.

Physical Stress

Physical stress can be described as "pertaining to or related to the body" (Humphrey, 1988). It can be related to unusual and excessive physical exertion. There are two types of physical stress: emergency stress and continuing stress. Physiological reaction is what the organs of the body do in relation to one another during the experience of stress. Hans Selye, a Canadian scientist (1907-1982), noticed that people who suffered from chronic illness or disease showed some of the same symptoms. Selye related this to stress and began to test his hypothesis. He exposed rats to different physical stress factors such as heat, sound, poison, and shock. The rats showed enlarged glands, shrunken thymus glands and lymph nodes, and gastric ulcers. Selye then developed the Three Stage Model of Stress Response. This model consisted of alarm, resistance, and exhaustion.

Selye also showed that stress is mediated by cortisol, a hormone that is released from the adrenal cortex. This increases the amount of glucose in the body while under stress.

Psychological Stress

Psychological stress occurs when an individual perceives that his abilities to cope have exceeded the demands placed on him (Cohen, 1995). Psychological stress is characterized by poor attention, inability to focus, difficulties with friends & family, and by anxiety. Other symptoms of this stress may include poor sleep, excessive tiredness, frequent minor illnesses such as cold and other respiratory infections, and can cause disturbances of metabolic control in patients with conditions such as Type I diabetes (Kemmer, Bisping, Steingruber, Baar, Hardtmann, Schlaghecke et al., 1986), coronary heart disease and many more health related conditions.

Theories of Responses to Stress

Physiological Responses - General Adaptation Syndrome

The human body is extremely complex because all of its systems work in synchronization with each other to maintain a state of homeostasis. During stress, the most important systems that come into play are the autonomic nervous system, the sympatho-adreno-medullary system (SAMS), the hypothalamic-pituitary-adrenal-cortical system (HPA), the endocrine system, and the immune system. A study of the all these systems put together have given rise to a new science called Psycho-Neuro-immunology, a term coined by Robert Ader in his presidential address to the American Psychosomatic Society (Ader, 1980). The pioneers of research who laid the ground work for all the above systems and stressed the importance of the coordinated functioning of all the body processes, particularly the sympathetic nervous system and the endocrine system, were

Claude Bernard (late Nineteenth Century), Cannon (1939) and Selye (1974), respectively. The following sections will review the human nervous system with the aim of briefly describing the physiology of stress, with emphasis on the pathways that are activated during a stress response.

Overview of the Nervous System

The nervous system can be studied both anatomically and physiologically. The anatomical part of the nervous system consists of two main, anatomical parts: the central nervous system and the peripheral nervous system. The central nervous system consists of the brain and the spinal cord. The brain is made up of the cerebrum, the cerebellum and the brainstem. The cerebrum is the 'seat of higher learning' and controls all the intellectual and cognitive functions of an individual. The cerebellum is responsible for the coordination of all motor activities. The brainstem forms the center of the brain and consists of the medulla oblongata, the pons varolii, the midbrain and the diencephalon. The diencephalon includes the hypothalamus and the thalamus. While the thalamus is responsible for information processing, the hypothalamus releases and controls important hormones to the rest of the body, and plays an important role during the body's reaction to the stress response. The peripheral nervous system consists of two major pathways, the somatic and the autonomic nervous systems. The somatic pathway is involved for impulse conduction and carrys sensory and motor information to and from the central nervous system. The autonomic nervous system supplies motor fibers, cardiac muscles and glands and maintains the body's homeostasis after it is exposed to a stimulus such as a challenge or a threat. It is composed of two branches the sympathetic and parasympathetic. The sympathetic branch is responsible for the body's arousal when in a

state of heightened activity. Alternatively, the parasympathetic branch plays the important role of restoring the body to its original state, or to the state of homeostasis or equilibrium. The autonomic system effects on many systems of the body such as the cardiac, gastrointestinal, respiratory, glandular and other systems.

Physiologically, the brain is divided into three different levels that work cohesively together (Gray, 2002). They are the neocortical level, the limbic system, and the vegetative level. The neocortex is the seat of higher mental function and contributes towards rationality and imagination. The limbic system consists of important structures known as the hypothalamus, thalamus, hippocampus, septum and amygdala. This system controls the affective and emotional reactions in an individual (Maclean, 1975). The pituitary gland, which is also known as the master gland, is situated at the base of the brain and is attached to the hypothalamus by the pituitary stalk. The gland has two lobes namely, the anterior lobe, which secretes six important hormones, namely, thyroid-stimulating hormone, the parathyroid hormone, luteinizing hormone, the follicle-stimulating hormone, the adrenocorticotropic hormone, the growth hormone, and the posterior lobe, which secretes oxytocin and vasopressin. The brain stem and the reticular formation are concerned with the maintenance of the vegetative functions of the body, such as vasomotor activity, respiration, and heartbeat. In conclusion, all the above levels of the brain are vital, but it is the limbic system that plays the key role in the stress response, because it is the center that controls the emotions and the affect of an individual.

The Fight-Or-Flight Response

Walter Cannon, a Harvard physiologist, was the first to describe the body's reaction to stress in the 1930s in terms of a "fight-or-flight" response during which the body prepares itself when confronted with a threat to either "stand one's ground and fight" or to "run away" (Greenberg, 1990). These physiological responses serve to help a threatened person mobilize his resources quickly for one of the two responses. In this case, prompted by physiological reactions, the cyclist quickly considers either confronting the bear or running away.

It is this "fight or flight" syndrome that is the sympathetic response to stress. Although effective in response to many physically threatening situations, the fight-or-flight stress syndrome can actually be harmful when dealing with many of today's competitive activities, leading to chronic, unrelenting stress (Manning, 1999). In sum, although the fight-or-flight syndrome is helpful in some physically dangerous situations, it is often counterproductive in motivating healthy responses to modern society.. Therefore, preventing and controlling these physical "fight-or-flight" reactions down to moderate levels constitutes "stress management" (Greenberg, 1990).

The General Adaptation Syndrome

Hans Selye, an endocrinologist known as the "father of stress," was interested in the fight-or-flight response and worked to elaborate on this concept in great detail. He published his research findings on the "general adaptation syndrome" in his classic book, "The Stress of Life" (Selye, 1956). This syndrome elaborates on the "fight-or-flight" syndrome by breaking down and describing stress reactivity as a three-phase physiological process. The general adaptation syndrome is the key to understanding how

and why an individual experiences the stress process when confronted with life stressors (Manning, 1999).

In the first phase, "the alarm reaction," bodily changes reflect the first exposure to a stressor. Initial reactions include decreased body temperature, blood pressure, blood fluid, and potassium levels, as well as slackened muscles and the release of powerful hormones (including adrenaline). These responses trigger further reactions that help the body create a defense for survival, which include: 1) surges in heart rate to deliver additional power and blood volume at a moment's notice; 2) elevated blood sugar levels to supply instant muscle energy; 3) diversion of blood to the skeletal muscles and brain to allow for a quick getaway or a knockout blow; 4) faster blood clotting to prepare for possible wounds; 5) increased breathing rates to allow more oxygen to be available to vital organs; and 6) increased release of endorphins and other hormones to decrease sensitivity to pain and increase visual and auditory alertness (Manning, 1999).

Individuals cannot maintain the shock and arousal of the alarm stage very long because of the highly taxing nature of this state on the body. Prolonged high blood sugar levels decrease resistance to infection. Furthermore, the intense fear triggered at the alarm reaction stage may harm the heart and even lead to a heart attack. If the stressor is sufficiently strong at this stage, sickness or even death may result (Greenberg, 1990). In the second phase, "stage of resistance," the body goes to a state of equilibrium if the stressor continues and the body is able to adapt to it for a period of time. The physical responses of the alarm reaction calm and virtually disappear as the body runs in "adaptation mode." Even though this phase leads one to feel more or less "normal," the internally taxing nature of this stage makes the body vulnerable to various stress-related

illnesses. The organ systems enduring prolonged activation may become strained, wear out, and result in malfunction especially if additional stressors are added (Manning, Curtis, & McMillen, 1999). Selye (1980) summarized his framework on the general adaptation syndromes as follows: "Fight for your highest attainable aim, but do not put up resistance in vain." (http://www.elibay.com/about/lifestyle.html).

Psychological - Transactional Model of Stress

According to Lazarus and Folkman (1984), stress is "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p. 19). In other words, stress is viewed as an interaction between the individual and his environment. Depending on the individual's perception to the potential stressor, primary and secondary appraisal of the stressor takes place. During primary appraisal, the stressor is appraised by the individual as positive, neutral or negative. When the appraisal of the event or stressor is viewed as positive or something that will cause no harm, the individual feels no stress. In contrast, if the event is appraised as negative, then secondary appraisal occurs. During secondary appraisal of the stressor, the event or source is further viewed as a harm or loss (where damage has already been caused), a threat (when there is an expectation for future harm), or a challenge (when it is considered as an opportunity to achieve growth). Factors that affect stress appraisal include personal factors such as intellect, motivation, personality and beliefs, and situational factors such as strong demands, life transitions, desirability, controllability (Lazarus and Folkman, 1984).

Following the appraisal of the stressor, both primary and secondary, the act of coping with the stressor takes place. Coping is deemed as efforts made by the individual

to manage the discrepancy between the demands of the situation and the available resources. Thus coping can be of two types. Emotionally focused coping is aimed at controlling the emotional response of the stressor, and can be behavioral or cognitive. Strategies such as seeking social support, distancing or distracting oneself from the stressful situation, escape or avoidance by engaging in wishful thinking or substance abuse, self control through the regulation of one's feelings, and accepting responsibility. An individual can adapt with such responses during this type of coping. On the other hand, problem-focused coping is used when the individual considers the demand as changeable, and aims at reducing the demands of the situation or expanding the resources for dealing with it. Problem-focused coping can be of three types: confrontational problem-solving, where efforts are made to change the situation; seeking social support by obtaining emotional comfort and information from other; and planned problem solving, when cognitive efforts to solve the problem are used. Finally, depending on the appraisal of the stressor, and the use of coping strategies, the individual outcome may vary. Based on new information gained about the stressor, the feedback process of reappraisal occurs (Lazarus, 1984).

Developmental Aspects of Stress in Children

Family stress has been defined as a "pressure or tension in the family system -- a disturbance in the steady state of the family" (Boss, 2002), (p.16). The disturbance in the family can be a result of various stressor events. According to Boss (2002), family stressors can be classified based on the source, type, duration, and density of the stressor. The source of family stress could be internal or external. Types of stressors can include the following: normative or catastrophic, developmental or situational, predictable or

unexpected, ambiguous or clear, volitional (chosen or wanted; for example, pregnancy) or non-volitional (not chosen; for example. an earthquake). The duration of the stressor can be acute or chronic, and stressors may be cumulative or isolated.

Risk factors that could cause illness and affect health per se and be related to behavior problems in preschool children. "Risk factors are variables or factors that are associated with a high probability of onset, greater severity, and a longer duration of major mental health problems" (Coie, Watt, West, Hawkins, Asarnow, Markman et al., 1993). Risk factors faced by children may differ from those faced by adults. Risk factors in children may be divided into two main categories. The first category includes everyday stressors such as hassles and strains. The second category involves the family and social stressors. This second group includes individual factors, family conditions, parenting styles, maternal factors, social support and the role of the school or day care centers.

Hassles

Hassles are the "irritating, frustrating, distressing, demands that to some degree characterize everyday transactions with the environment" (Kanner, Coyne, Schaefer, & Lazarus, 1981). "Hassles" are minor occurrences or events that may affect an individual's life in day to day situations (Patterson, 1988). They may be perceived (appraised) as challenging, or they may be perceived as a threat to the individual (Lazarus, 1984). Hassles can be perceived as a challenge; and when they are viewed positively in this way, they are called as "uplifts" (Lazarus 1984). Examples include viewing a stressful situation or an event, such as taking an examination, as a challenge, viewing it positively and doing one's best in that particular situation. Alternatively, when viewed negatively, hassles can be considered a threat and be and be potentially harmful to the individual.

Strains

Strains are stressful circumstances or events that occur for a prolonged period of time and cause continuous pressure on the individual until the problem or the stressor is solved. Some examples of strains include marital conflict, role overload, and presence of a chronic illness such as diabetes. Strains are often considered more difficult to handle than stressors, because they are persist for a long period of time, are usually difficult to resolve immediately, and may seem to be more stressful with the accumulation of stressors and hassles (Patterson, 1995; Patterson, McCubbin, & Warwick, 1990).

The second category of risk factors may consist of the following factors. These include the family, environmental, maternal and biological factors. Firstly, family factors greatly contribute to the overall growth and development of the child. They include the presence of a dysfunctional family (i.e., a family that already has existing risk factors like an impending divorce, marital discord, marital dissatisfaction, family size, and instability). Other factors include substance abuse, single mother parenting, dissatisfaction with life as a whole, and unemployment.

Individual Factors

Factors in the child such as anoxia at birth, premature birth, low birth weight, neonatal cerebral involvement, other birth complications, gender and more.

Family Conditions

Family factors include low socioeconomic status of the family, or extreme poverty, lack of social support, impending divorce, marital discord, marital dissatisfaction, family size, and family instability. Other factors include substance abuse, single mothers, and dissatisfaction with life as a whole, unemployment.

Parenting Styles

According to Baumrind (1991), parenting styles involve three main approaches: authoritative, authoritarian, and permissive. Whereas authoritative parenting is controlling and demanding, the later two styles are characterized by parenting that is inconsistent, uninvolved, with lack of engagement and disagreement over child rearing practices. Parenting that is characterized by inconsistency and disruption is associated with the development of aggressive and antisocial behavior in children (Patterson, 1982, 1992), which in turn increases the risk for problems in conduct and antisocial behavior (Patterson, DeGarmo, & Knutson, 2000). Determinants of parenting practices include culture (Bartz, 1978); socioeconomic status (Luster, 1989); maternal age, maternal education, and father absence (Kelly, Power, & Wimbush, 1992).

Maternal Factors

Maternal factors can also play an important role in overall development of the child. Some of them include the personality of the mother, depression, unwanted pregnancy, lack of a supportive husband, too many responsibilities, perceptions towards motherhood, child rearing and family planning practices, and low maternal age at delivery. Studies conducted on preschool and school age children have shown strong relationships between maternal psychopathology and the occurrence of emotional and behavioral disturbances in children (Downey & Coyne, 1990; Keitner & Miller, 1990).

Social Support

According to Schaefer et al., (1981) social support serves three important functions: to provide emotional support, such as attachment; to provide tangible support, such as loans or gifts; and to provide informational support, such as advice or providing

feedback. The availability of social support for both adults and children help them to deal effectively with the stress they face in their day to day lives (Cauce, 1990). For children, a supportive family environment is vital for the development and overall well being of the child (Reid, Landesman, Treder, & Jaccard, 1989). One perspective of the influence of socio-economic status on behavioral outcomes of children suggests that maternal education (Jensen, Bloedau, & Davis, 1990; Sameroff & Seifer, 1983; Walker, Downey, & Bergman, 1989) and the attitudes of childrearing (Tulkin, 1973) may affect adjustment in children.

For mothers from a poor socioeconomic background, support from members of the family, and other kinds of extended support, such as friends, serves as a protective factor against stressful life events, and aids in positive parent-child relations (McLoyd, 1990, 1998). This conclusion is based on findings "that the positive relation between life change scores and impairment is strongest in the lower class" (McLoyd, 1990, p.320). Increased social support and less use of punishment has been shown to improve parenting practices (Weinraub & Wolf, 1983), and increased satisfaction from social support has been shown to assist mothers in responding more sensitively to the needs of their children (Crnic, Greenberg, Robinson, & Ragozin, 1984).

School/Child Care

According to the US Bureau of the Census (1992), increasing numbers of women with dependent children are employed outside the home. In the United States, labor force participation of mothers with children younger than 6 years of age doubled from 30% to 59% between 1970 and 1990. In 1975, 34% of mothers with children below 6 years of age were in the workforce. In 1999, the corresponding figure was 61% (The relation of

child care to cognitive and language development. National institute of child health and human development early child care research network, 2000).Factors affecting maternal employment include socioeconomic status, education, fertility, household composition, availability of child care and nursing, and other caretaking responsibilities of women for children or the elderly (The mothers working outside the home. American academy of pediatrics, 1984).

Much depends on the quality of the day care, and on the age, characteristics, and family circumstances of the child (Rutter, 1981). A child care facility must have the following minimum requirements to achieve the maximum possible positive outcomes in children (http://www.childrensworld.com/parent_resources/checklist.html). Some of the following include: accreditation by the National Academy of Early Childhood Programs, proper teacher/child ratios, adequate practice of hygiene, a clean and safe environment, written emergency procedures, presence of activities and learning programs that are developmentally appropriate and geared to the needs of children of different ages, abilities, and learning styles, and policies for continuous communication between the parents and the care givers about the progress of the child. When a child care facility fails to meet the above requirements, they can produce constant stress on the family, and the child as manifested by problems in behavior.

Risk Factors and Behavior Problems in Preschool Children

Life events have been studied as predictors of health outcomes in adults and in children. They have been assigned different nomenclature in the literature, such as, major stress factors within the family, hassles, distressing psychological and social factors etc. Stressful life events such as marriage, birth of a child, or death of a spouse are some of

the major events that may contribute to stress in an individual's life. Some of the well known pioneers in the field of stressful life events and their contributions include Adolf Meyer (1951) who used life charts to make patient diagnosis in the 1930's, Cannon (Cannon, 1929) studied bodily changes related to pain, hunger and major emotions and Hans Selye (Selye, 1956) who considered "stress as a natural by- product of all our activities" (c.f. Dohrenwend, 1974, p. 4). Earlier studies by Holmes and Rahe (1967) and Coddington, (1972) quantified the readjustment of the individual after a single traumatic event, as a life change unit.

According to the National Harris Interactive Survey (The Harris Poll: Harris Interactive Survey, 2001) 35% -37% of adults suffer from stress related to daily hassles of life, such as, rising prices, health concerns, too many things to do. Just as adults, children also are affected by stress. However, they respond differently to stress from adults. The distress they feel and experience is best characterized by their behavior. In (1984), Goldberg, et al. found that the percentage of behavior problems increases roughly by 17% to 25% when preschool children are exposed to a risk prone environment. In addition, studies by Jellinek & Murphy (1999) and Dulcan, et al. (1990) have shown that the prevalence of mental health problems during preschool years children have increased by 13% in the last two decades.

Over the last three decades many studies have examined the effects of stressful life events on behavior problems of children (Beautrais, Fergusson, & Shannon, 1982; Coddington, 1972; Hardy, Power, & Jaedicke, 1993; Lavigne, Arend, Rosenbaum, Binns, Christoffel, & Gibbons, 1998; Shaw, Winslow, Owens, & Hood, 1998b). Results have shown strong relationships between stress in early childhood and later behavioral

problems. Besides the impact of stressful life events on behavioral problems, other factors that have emerged as risk factors in children have also been studied.

In this review, studies are grouped into three categories, reflecting types of risk factors that have been associated with behavioral problems in children. Although these categories have common factors and cannot be considered mutually exclusive, they show major directions in the literature. The first group includes studies related to discrete stressful life events and their effect on problems in children. The second group of studies includes ongoing social and environmental factors (such as a low SES, low income, lack of social support, and poverty) as well as parenting styles. Single parenting, parenting styles that are either authoritative, arbitrary, inconsistent, uninvolved, or punitive may have a major bearing on the child's overall personality. This group also included ongoing family issues such as family size, dysfunction, size, marital dissatisfaction, and instability. Thus behavior problems in children in children can result from a single stressful life event, per se, or they can be a result of the interplay of many of the risk factors summarized here.

This section critically reviews the research literature on the factors associated with stressful life events and behavioral problems in children. It will discuss first the methods used for the review, including the period of search and the databases used. The articles will be discussed in terms of the quality of research, and their contribution to the knowledge in this area. The results will be presented in three sections: I) studies on life events, II) studies on family factors. The paper concludes with a summary of research, followed by suggestions for future research regarding predictors of behavioral problems in children.

Method of Review

This review began with an extensive search of bibliographic databases that included, PsychInfo, MedLine, Sociological Abstracts, Melvyl and Computerized Index to Nursing and Allied Literature (CINAHL). In addition, reference lists of articles were reviewed, and a number of key journals were hand searched. Search terms included family stress, life change events, child- preschool, children, psychological stress, routines, and behavior problems. Case studies, reviews of literature and other non data-based reports were excluded. In addition to the criterion of reporting research findings, articles were included that studying children up to 12 years, and studying behavior problems as an outcome variable. Only articles in English were reviewed. The period of search was between 1970 when research on the impact of life events on children began, to 2003. A total of 29 studies published during that period were reviewed. Each article was reviewed in terms of formal criteria for research criticism: design, use of a theoretical framework, sample size, sampling technique, measures used, issues of reliability and validity. Strengths and weaknesses of each study are discussed in relation to the larger literature.

Studies of Life Events

Literature on the influence of life events on behavior problems in children began with studies by Coddington et al. (1972). Coddington's innovation was the calculation of the life change unit which he considered as the geometric mean of the total score on a particular item rated by each respondent on a 0 –500 scale, with 0 indicating no readjustment required for the event, and 500 indicating the maximum period of time required for the adjustment. 3520 children were recruited from a variety of community

settings in Columbus, Ohio. The aim of the study was to determine the normal values of life change units for children of different ages ranging between 5-18 years. The study also examined the effects of variables such as sex, race, socioeconomic class and religion, on the normal values required for adjustment for an average child in a given year. Parents of preschool and elementary kids, and junior high and senior high students completed the Social Readjustment Rating Scale (Holmes & Rahe, 1967) which measures the total readjustment required by an individual in life change units after a life change event. The findings revealed that greater the number of life change units acquired by an individual after the occurrence of a single life event or a number of life events, the higher the readjustment the individual was made to require. No significant differences related to sex, race or social classes were found. Fewer life events were reported in younger children compared to the older children. Despite the fact that the dependent variable in this study was not behavior problems, this study was an excellent first attempt to measure readjustment in children in terms of life change units. The methods used here to calculate life change units have been called into question, because they were not standardized as indicators of adjustment to stress. Nevertheless, this study set a methodological pathway for future research on life events in children.

In the same decade, Boyce and colleagues (1977) expanded the use of life change units as predictors of respiratory tract infections. The authors also introduced a measure of family routines. The study used a longitudinal design that investigated the effects of life events on respiratory tract illness (frequency, intensity, average duration, and average severity) in 58 children (mean age 4.3 years; range 1 to 11 years) attending a child care center in Chapel Hill, North Carolina. Each child was observed for 5 days a week for

respiratory infection along with biweekly nasopharyngeal cultures to assess for pathogenic microorganisms in the respiratory system. The families of the children were interviewed for the number of life events and a cumulative life change score was calculated for each child. A family routine inventory consisting of 30 items was used to obtain the number of routines practiced by each family. Some of the items on the inventory included, "bath before bedtime each evening," and "meals at regular times." The findings revealed no significant associations between life change, family routine scores, and frequency of illness ($r = -.05$ and $r = -.12$ respectively). Therefore, in this study family routines were not protective or related to a decrease in family stressors. However, life changes and family routines together predicted respiratory disease severity ($p < .01$). Boyce and his colleagues concluded that social processes such as routines that occur within the context of a family need to be explored further.

The Social Readjustment Scale by Holmes & Rahe (1967) has also been used as a measure of life events. Beautrais, Fergusson, & Shannon (1982) used it in a 3 year prospective study on a birth cohort of 1, 265 children studied at birth, 4 months, and at 2, 3, and 4 years of age in New Zealand, to examine the effects of family life events on the behavioral problems of these children, as reported by their mothers. Other variables studied were the size and socio-economic status of the family, and maternal characteristics such as age, education level, and ethnicity. The results indicated a positive association between maternal reports of child rearing problems and number of life events (Chi Square = 126.23; df = 9; $p < .0001$). Frequency of maternal reports of child rearing problems declined as the child's age increased (Chi Square = 105.73; df = 6; $p < .001$). This important study had a longitudinal design study and a good sample size. Possible

limitations included reporting bias by mothers whose responses on a non-standardized checklist provided the measure of behavior problems in children.

Members of the same group above Fergusson et al., published a 1985 report of a subgroup of the original sample above looking at depressed mothers only. The Social Readjustment Rating Scale (SRRS; Holmes & Rahe 1967), the Levine-Pilowsky - Depression Inventory (Pilowsky & Boulton, 1970; Pilowsky, Levine, & Boulton, 1969) and the Rutter's Child Behavior Questionnaire (Rutter, 1970) were used to measure family life events, maternal depression and child behavior problems by mothers and teachers respectively. Behavior problems were reported in children experiencing more life events and in children whose mothers were depressed. The study reported a statistically significant association between short- term life events and teacher ratings of child behavior ($p < .05$) (correlation coefficient not reported) but not with maternal depression scores. The study did not control for potential confounding variables such as socio-economic status of the family, presence or absence of father, social support, and number of children in the family.

Life events have also been examined in clinical samples. Steinhausen, H.C (1986) conducted two studies: a cross-sectional (study 1) and a case control (study 2), to test the hypotheses that a) adverse life events, recent or more distant in time, were more in disturbed children than in non - disturbed children, and b) that specific life events have affects on various child psychiatric disorders. For the cross-sectional study, 272 children aged 2-17 years admitted consecutively to a child psychiatric unit were recruited. Parents of these children completed the Life Events Questionnaire (Coddington, 1972). Diagnostic data from the Multi- Axial Classification Scheme for Psychiatric disorders in

Childhood (Rutter, 1975) were obtained based on clinical assessments. For the cross-sectional study mean (SD) number of life events was 1.08 (1.41) and mean (SD) of undesirable life events was 0.29(0.79).For the case control study, 54 subjects diagnosed with a psychiatric disorder were matched with controls for age, sex and socio-economic status. Significant differences were found between both groups only for past life events and, undesirable life events. Also, a high score on the life events questionnaire was indicative of conduct disorders. In conclusion, a larger number of life events were associated with the presence of child psychiatric disorders.

Another study by Bailey (1990) used a sample of children aged 7-12 years referred to pediatric clinics because of behavior problems. This case -control study determined the differences in ratings between parents and children, on the effect of life events on children. One hundred and twenty three children referred to general pediatric clinics were chosen to be cases, and a community sample of 102 children attending schools was included as controls in the study. The Children's Inventory (based on Coddington's Life Event Schedule), a parental questionnaire based on an adapted version of the Coddington Life Event Questionnaire (Coddington, 1972; Monaghan, Robinson, & Dodge, 1979), and Rutters Psychiatric Interview of parents (Rutter, 1970) were used to obtain information. Findings of the study revealed uneven ratings of stressful events between parents and children in the clinic sample. Children reported more events than parents. However, no significant differences were found in the control sample.

Life events have also been conceptualized as "hassles" which are minor occurrences or events that may affect an individual's life in day to day situations (Patterson, 1988) Crnic, & Greenberg (1990b) used a cross-sectional design to study 74

mothers and their 5 year old children to explore the impact of hassles parenting, family stress and child-parent interactions on behavior problems of children. Data was obtained on the childrens' behavioral status, major life stress, minor daily hassles, psychological status of the mother, family status and parenting styles using the Child behavior Checklist (CBCL) (Achenbach, 1983a), Parenting Daily Hassles (PDH) (Cric & Greenberg, 1990a), Life Experiences Survey (LES) (Sarason, Johnson, & Siegel, 1978), General Life Satisfaction (GLS), Family Environment Scale (FES) (Moos, 1981), and the Satisfaction with Parenting Scale (SWPS) respectively. The study also used observation techniques such as free play and structured interactions between mother and the child in a laboratory setting, to measure some of the same variables, and these added reliability to the data. Working mothers reported fewer hassles ($t = 2.16$, $p < .05$), mothers of boys reported greater intensity of hassles ($t = 2.52$; $p = .01$) and number of children in the family correlated significantly with the Parenting Tasks factor on the PDH questionnaire ($r = .42$; $p < .001$). To conclude, parenting hassles increased with the number of children in the family and predicted behavioral problems in boys compared to girls, perhaps because boys' behaviors were more aggressive.

In a longitudinal study of 1397 children aged 6 to 16 years old were studied over a 2 year period (Berden, Althaus, & Verhulst, 1990), the relationship between negative life events, and changes in the level of behavior problems was investigated. The study was a two time prospective cohort. At Time 1, the Child Behavior Checklist (CBCL) (Achenbach, 1983) and at Time 2, the CBCL and Life Events Questionnaire (LEQ) (Coddington, 1972) were administered. The findings revealed that the occurrence of life events significantly increased with increasing age [$F (3, 1334) = 4.8$; $p < .01$], and there

was a significantly higher total life event for children from lower socio-economic status [F (5, 1334) = 4.3; p< 0.001]. The attributable risk percentage was found to be 11.2 %. The use of a random sample enhances the generalizibility of a study. A poor socio economic status can be considered as a significant risk factor for behavior problems in children considering the high risk rate found in this study.

Banez & Compas (1990) conducted a cross-sectional study in 75 children (40 male and 35 female) aged between 9-11 years, and their parents from northern Vermont. The aim of the study was to examine the cross-sectional association between stressful life events and emotional/behavioral problems in younger children. Child Stress Measures used were the Children's Activity Inventory (CAI) (Shelton, 1987, August), Children's Manifest Anxiety Scale (CMAS-R) (Reynolds & Paget, 1981), Children's Depression Inventory (CDI) (Kovacs, 1981), CBCL (Achenbach, 1983a), the Hassles and Uplifts Scale (DeLongis, Folkman, & Lazarus, 1988), and The Symptom Checklist -90- R (SCL -90 R) ((Derogatis, 1983) was used. Children's self reports of depression marginally correlated with their reports of daily stress and mothers' daily hassles as well as with fathers' reports of daily hassles. Correlations also existed between both the parents' reports of daily hassles ($r = .31$, $p < .05$) and psychological symptoms ($r =. 52$, $p < .001$). Children's daily stressors were significant predictors of anxiety problems [$F (5, 42) = 4.10$, $p = .045$]. This was a strong study since it included multiple measures and reports from both parents were taken into consideration to exclude information bias.

Rende & Plomin (1991) looked at "upsettingness" as a way of measuring life events in a secondary analysis of a 7 year Colorado Adoption Project (CAP) (Plomin, 1985, 1988). To measure upsettingness, either parent of each child indicated whether or not a

life event had occurred in the past one year, and indicated whether the child was upset by the event on a 4 point Likert scale. One hundred and sixty four children (mean 88 months ± 4.31) and their parents were administered the Social Readjustment and Rating Scale (SRRS) (Coddington, 1972) and interviewed and asked to rate the upsettingness of a particular life event on a 4 point scale. Parent ratings were significantly higher than child ratings for specific events ($t = 3.61$, $p < .001$). The total stress score for child and parent correlated significantly, ($r = .58$, $p < .001$). No significant differences due to gender ere found for both parents and child composite scores.

Only one published report in this area described children in a developing country. Hackett, Hackett, Bhakta & Gowers (2000) conducted a case control study on 8-12 year old children in Kerala, a southern state in India. They looked at effects of life events on psychiatric disorders in children and examined their association with other mediating factors like social class, poverty, education of parents, and physical health of the child over the previous 6 months. As in prior studies in other countries life events were associated with lower social class, poverty, less educated parents, worse physical health and psychiatric disorder. Unfortunately, major flaws detracted from the value of this study, including conflicting remarks in abstract and text, insufficient review of literature, illogical sentences, unclear justification of procedures used in the study design, the methodology and the results section.

Tiet, Bird, Hoven, Moore, Wu, Wicks, Jensen, Goodman & Cohen (2001) examined the relationship between specific adverse life events and psychiatric disorders using data from the NIMH Methods for the Epidemiology of Child and Adolescent Mental Disorders (MECA) Study. Probability sampling procedures were used to obtain

the original sample, which consisted of 1,285 children, aged 9-11 years from Connecticut, Georgia, New York and Puerto Rico. A modified Life Events Checklist (Brand, 1982; Coddington, 1972; Johnson, 1980), the NIMH Diagnostic Interview Schedule for Children version 2.3 (DISC-2.3) (Shaffer, Fisher, Dulcan, Davies, Piacentini, Schwab-Stone et al., 1996) were used to measure life events and psychiatric disorders in the children respectively. Odds ratios found only four psychiatric disorders, namely, Conduct Disorder (CD), Oppositional Defiant Disorder (ODD), Major Depressive Disorder (MDD), and Dysthymia to be significantly associated with at least 17-22 out of the 25 adverse life events examined. Whereas, Attention-Deficit/Hyperactivity Disorder, Agorophobia, and Social Phobia were related to only three or fewer life events examined. Although the data came from a large and representative sample, this secondary analyses was limited in terms of variables for study that may have contributed to the psychiatric disorders in children.

Studies on psychological and social phenomena and their relationship to behavior problems in children

Although some prior studies on life events and behavioral problems included psychological and social predictors as mediating factors or outcomes, the following group of studies focuses more exclusively on these factors as independent variables. For example, Campbell (1990) used a case- control design and studied boys from age three, and again at age 6 to predict the effect of family disruption as well as child temperament on externalizing disorders in boys at age 9. Three measurements were obtained at age 3 and included the temperament score which was based on a maternal interview, a family disruption score rated 1-3 by an interviewer, with higher scores reflecting higher family

stress, and the child behavior score obtained on the Behar Preschool Questionnaire (Behar, 1977). The authors developed their own tools to score observations of the child, observations of the child and mother behavior in a laboratory setting. Composite scores were obtained which included the free play composite score, negative maternal score and a child negative/non-compliant score. At age 6, mothers were interviewed, and scores on the Special Need Advocate for Parents (SNAP) questionnaire, and Child behavior Checklist (CBCL) were obtained. At age 9, a maternal interview was conducted and data on the NIMH Diagnostic Interview Schedule for children - parent version (DISC- P) (Costello, 1982), the CBCL, Life Experiences Survey, and the Teacher Report forms were collected. Data were also obtained on the use of special school services, and mental health services. Selection bias was controlled by using blind procedures for the interviewers during the data collection process.

Results indicate that children who showed persistent problems at age 6, were more likely to have externalizing problems by age 9 (Chi-square (2) = 11.02, p = .004). The externalizing and internalizing scales on the CBCL and the DISC-P were highly correlated. ($r = .719$, $p < .001$); $r = .644$, $p < .001$). There was a moderate agreement between parents and teachers on the presence of externalizing problems ($r = .457$, $p < .001$), but no significance was found on agreement between internalizing problems. A negative correlation was found between SES and ADDH symptoms ($r = -0.301$, $p = .02$). Predictors of internalizing problems at age 9 included-infant temperament, negative child - behavior at age 3, and maternal ratings of at age 3, and maternal ratings of internalizing symptom at age 6 ($R = .619$, $F = 4.23$,$df = 6,41$, $p = .002$). This study was an important study because of its emphasis on the relationship between a child's temperament and

behavior problems. The focus on presence of adequate school health services is also important to consider in attempting to reduce the incidence of behavior problems in school children.

Stanger & McConaughy (1992) conducted a prospective cohort study to test 3-year outcomes for the effect of psychosocial risk factors related to the family and environment, such as socio-economic status, number of family members, and the education of family members on behavioral/emotional problems in a nationally representative sample. Parents and 2, 479 boys and girls ranging between 4-16 years were recruited for assessments at Time 1, and 2,466 boys and girls were retained at Time 2, to examine the relationship between family variables, stressful experiences and parents' ratings of behavioral/emotional problems. At Time 1, parents completed the Achenbach, Conners, and Quay (ACQ) (1983b) Behavior Checklist. At Time 2, the Child Behavior Checklist (CBCL) (Achenbach, 1991a), the Teacher's Report Form (TRF) (Achenbach, 1991b), and the Youth Self- Report (YSR) (Achenbach, 1991c) was completed by parents, teachers, and children aged 11-19 years respectively. Findings of the study suggested that parent ratings of behavioral problems, parent reports of stressful experiences, and utilization of family mental health services at Time 1, were the three direct predictors of behavioral problems at Time 2. The use of multiple measurements made across time periods is important in indicating stability of results across a sample.

Parental stress was studied by Cuccaro, Holmes & Wright (1993), as a predictor of behavioral problems in children. This pilot study examined the correlations between parents' experienced stress and behavior problems in 20 preschoolers (mean age 4.1 years; range 3–5 years) attending a diagnostic nursery. The Child Behavior Checklist

(CBCL) (Achenbach, 1991), and the Parenting Stress Index (PSI) (Abidin, 1983) were the measures used. Moderate correlations ($r = .55$, $p = .02$) were found between parents experience of stress and behavior problems in the preschool children. It is difficult to make causal inferences about significant associations in a cross sectional study. Also, this small study examined the effect of only one variable, namely stress, on behavior problems. It is plausible that other factors may be contributing to the results.

Griffin & Verzemnieks (1995) conducted a secondary data analysis with the following three aims: a) to examine the relationship between child behaviors as perceived by the mother and father, b) to study associations between mother-child interactions, and the home environment, c) to find out if maternal perceptions of infant difficulties affect subsequent behavioral ratings? Data came from an earlier study that was done to determine the effects of early sensory stimulation on child development (Koniak-Griffin & Ludington-Hoe, 1988). The sample consisted of children ($n = 28$), their mothers ($n = 28$) and fathers ($n=28$). The Eyberg Child Behavior Inventory (ECBI) (Robinson, 1980), the Nursing Child Assessment Teaching Scale (NCTAS) (Barnard, 1978), The Neonatal Perception Scale (NPI) (Broussard, 1979), Home Observation for Measurement of the Environment (HOME) Inventory (Bradley & Caldwell, 1977). Significant positive inter-parent correlations were found for intensity of behavior problems (ECBI) ($r = .55$, $p< .05$); however, fathers reported a lower frequency of problems. Maternal perception of mothers on the NPI was significantly related to children's emotional problems (ECBI) ($r = .73$; $p< .000$). This is an important study that links parental attitudes towards child rearing and behavior problems in children, and opens a new direction towards research that focuses on risk factors associated with behavioral problems in children.

Shaw, Winslow, Owens & Hood (1998a) conducted a longitudinal study to examine the relationship between multiple family stressors at 18 and 24 months and early child behavior problems at 24 and 42 months. Three hundred and ten male children from the Allegheny County's Women, Infants, and Children (WIC) program in the Pittsburgh area were recruited over a period of two years. A wide variety of standardized measurements were included such as the Beck Depression Inventory (BDI) (Beck, Epstein, Brown, & Steer, 1988), General Life Satisfaction Questionnaire (GLS) (Crnic, Greenberg, Ragozin, Robinson, & Basham, 1983), Maternal Social Support Index (MSSI) (Pascoe, Ialongo, Horn, Reinhart, & Perradatto, 1988), Personality Research Form (PRF) (Jackson, 1989), Neighborhood Questionnaire (Pittsburg Youth Study, unpublished), Marital Adjustment Test (MAT) (Locke, 1959), Child Rearing Disagreements Scale (CRD) (Jouriles, Murphy, Farris, Smith, Richters, & Waters, 1991), Parenting Daily Hassles (PDH) (Crnic & Greenberg, 1990a), and Child Behavior Checklist for ages 2 - 3 (Achenbach,1992). Findings revealed that poor maternal adjustment, a poor social environment, increased aggression, high crime, high maternal depressive symptoms, frequent parenting daily hassles, maternal - aggressive personality at 18 and 24 months were predictors of behavior problems at 24 and 42 months. This study used standard and reliable measures on a special sample (WIC) of preschoolers with existing stressors and found there are multiple factors that predicted behavior problems for young children.

Another inner city sample was studied by Kliewer & Kung (1998) using a cross-sectional design with a sample of 99 inner-city children aged 8-12 years in Richmond and Virginia. Three categories of measures were used in this study, namely measures of stress, of family interaction patterns, and of adjustment. To measure stress, Ewart's

Adolescent Resource Challenges Scale (ARCS) (Compas, Davis, Forsythe, & Wagner, 1987) was used. This measure has 38 items that measure hassles such as "doing poorly on a test," "you had problems with your friends." and 12 items that measure items related to family stress. Family interaction measures included the Network of Relationships Inventory Family Adaptability (Furman & Buhrmester, 1985). Social support, family cohesion and conflict were assessed by 9 item subscales from the Family Environment Scales (FES) (Moos, 1981). Family routines and family adaptability, were measured by the Family Routines Inventory (FRI) (Jensen, James, Boyce, & Hartnett, 1983) and the Family Adaptability and Cohesion – Scales (Faces- III) (Olson, 1986) respectively. To measure adjustment, the Child Behavior Checklist (CBCL) (Achenbach, 1991) the Children's Depression Inventory (CDI) (Kovacs, 1985) and the Revised Children's Manifest Anxiety-Scale (RCMAS) (Reynolds & Richmond, 1978, 1979) were used. As in prior studies of life events, hassles significantly correlated with both internalizing ($r = .49$; $p <. 001$) and externalizing problems ($r = .43$; $p <.001$). The findings also revealed that higher level of maternal education, higher level of family cohesion and practice of routines decreased the child's risk of behavior problems, while high family conflict increased the child's risk for adjustment difficulties.

A cross-sectional study in this area was done by Gross, Sambrook, & Fogg (1999). The study included 133 parents of 2 and 3 year old children from 10 day care centers in Chicago. The aims of the study were to describe the frequency of behavior problems among 2-3 year old children, estimate the degree of agreement between parents and day-care providers, and determine child and family characteristics of children with behavior problems. Child behavior problems were measured using two standardized measures, and

included the Eyberg Child Behavior Inventory (ECBI) (Robinson, 1980) and the Kohn Problem Checklist (KPC) (Kohn, 1977). The Toddler Care Questionnaire (TCQ) (Gross & Rocissano, 1988) measured parenting self-efficacy. Parent stress and the stress of living in a poor neighborhood was measured by the Center for Epidemiologic Studies Depression Scale (CESD) (Radloff, 1977), the Everyday Stressor Index (ESI) (Hall & Farel, 1988), and the Neighborhood Problem Scale (NPS) (Elder, 1995) respectively. Discipline strategies used by parents were obtained by the Parenting Scale (Arnold, 1993). The sample was divided into high, moderate, low risk groups based on cutoffs for behavior problems at home and at school. Children in the high risk group and the moderate risk group were significantly more intense than children in the low risk group, ($F(2,130) = 16.67$, $p < .001$). Parents in the moderate risk group were significantly more depressed ($F(2, 130) = 3.74$, $p < .03$), had more everyday stress ($F(2,130) = 3.44$, $p < .02$), had lower parenting self efficacy ($F(2, 130) = 7.92$, $p < .001$), and used over reactive disciplining strategies ($F(2, 130) = 4.88$, $p < .01$), than parents in the low risk group. Parent and teacher ratings on child behavior were correlated for boys' behavior problems only. The biggest strength of this study was the collection of data on multiple variables that influenced behavior problems and the use of multiple measures and informants.

Mathiesen, Kristin. S (2000) conducted a study to identify risk factors found to be associated with behavior problems: temperament, emotionality, maternal distress or lack of social support. There were two points of data collection. At Time1, 939 preschoolers aged 18 months attending child health clinics were recruited from 19 different geographic areas in six municipalities in eastern Norway. At Time 2, 804 of the preschoolers, aged

30 months, were assessed for the effect of negative life events, chronic strain, maternal anxiety, depression, social support, physical health problems, and temperament on behavior problems. Findings suggested that behavior problems assessed as early as 18 months age may be predictive of later psychopathology. Temperament emotionality, maternal distress and lack of social support were associated with behavior problems.

Mesman, Judi & H. M Koot (2001) conducted a longitudinal study on 420 children aged 2-3 years who followed at age 10-11 yrs in Holland in two phases. The aim of the study was to find out if early diagnosis of behavioral problems in children by parents could predict later psychopathology in preadolescence. In the first phase, the Child Behavior Checklist (CBCL) (Achenbach, 1992) for ages 2-3 years was administered, along a parent interview on the Diagnostic Interview Schedule for Children–Version 4-Parent Version (DISC- IV-P). Other information on variables such as physical health problems, adverse parenting characteristics (negative maternal attitude, harsh discipline), adverse family circumstances (family psychopathology, frequent maternal absence, stressful life events, low socio-economic status) was also obtained. At time 2, only the DISC- IV-P was administered. Time 1 internalizing problems were significantly associated with externalizing problems (OR = 2.4, 95% CI= 1.3 - 4.7), negative maternal attitude (OR =2.1, 95% CI = 1.2 - 3.8), and low socio-economic status (OR=2.1, 95% CI= 1.2- 3.8). Externalizing problems were significantly related to harsh parenting (OR=2.8, 95% CI=1.5-5.0), negative maternal attitude (OR=2.9, 95% CI=1.6-5.2), family psychopathology (OR=2.5, 95% CI=1.4-4.7) and low socioeconomic status (OR=2.8, 95% CI=1.5-5.1).

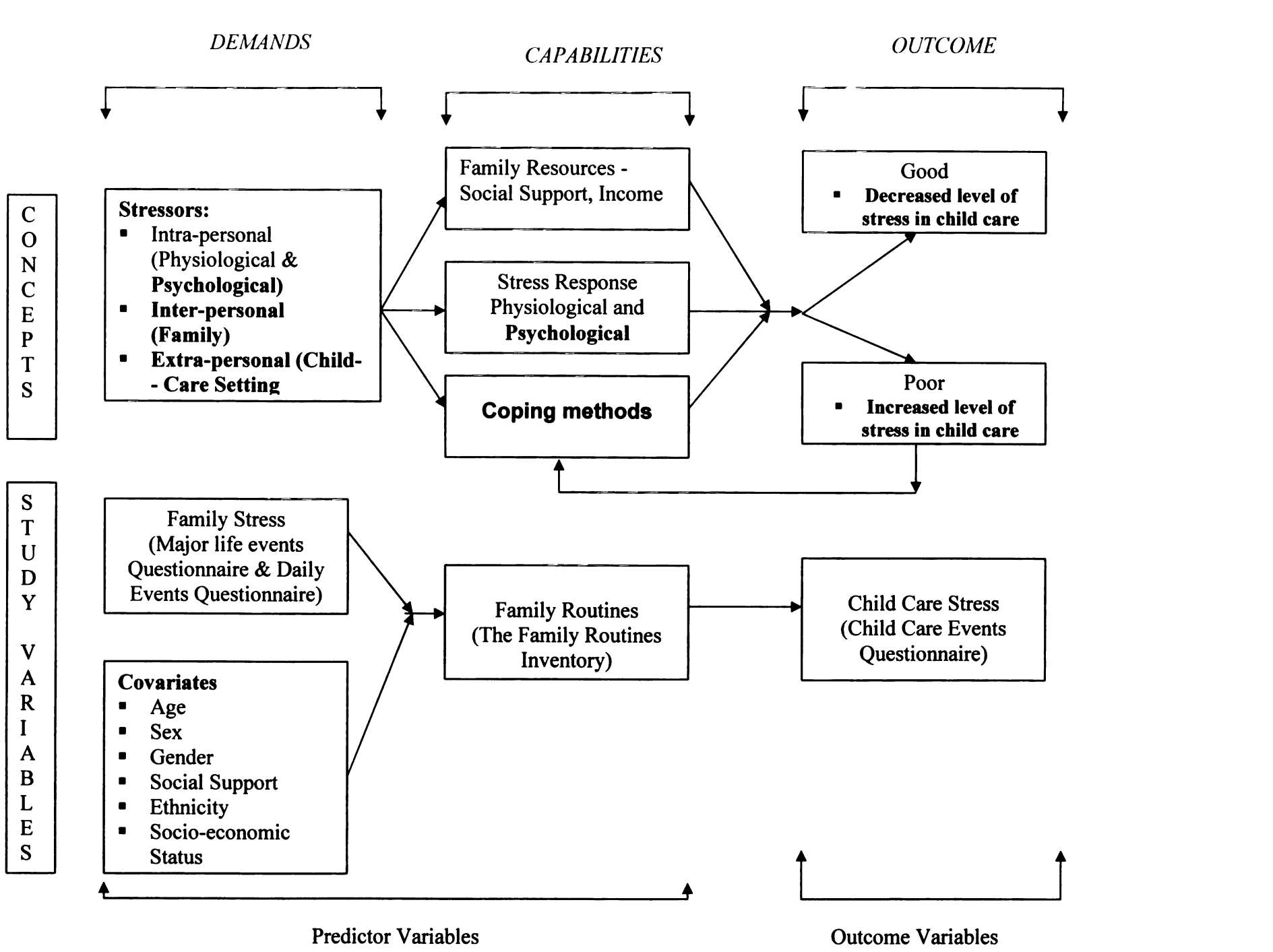
Kroes et al., (2002) conducted a longitudinal study, on 5 to 6 year old children attending kindergarten schools at Limburg in Netherlands. The study was done to examine which risk factors in the children, predicted later psychopathology. In the first stage of data collection, 1317 children and their parents who participated, completed the Child behavior Checklist (CBCL) (Achenbach & Edelbrock, 1983). Subjects were then divided into 3 groups Group E, Group I and Group N (externalizing, internalizing and normal groups respectively.) based on the scores obtained. At stage 2, 403 parents were interviewed with the Amsterdam Diagnostic Interview for Children and Adolescents (ADIKA) (Kortenbout van der Sluijs, 1993). Information on psychosocial risk factors such as child characteristics, family variables and environmental variables was also obtained. Child characteristics included- sex, age, and life events in the form of an open ended question. Family variables included occupational activity and its complexity, number of children, position of child, family structure, complexity, and country of birth of parents, maternal age at delivery, and professional mental support for mother. Environmental variables included were type of school, and nursery after school hours. Findings showed that occurrence of a life event (OR = 4.6, CI = 1.5-13.6) were predictive of ADHD, single parent family (OR = 4.7,CI = 1.9-11.7), occurrence of a life event (OR = 4.6, CI = 1.5-13.6) younger mother (< 27 years: OR = 7.3, CI = 1.5-36.1; 27-33 years: OR = 7.6, CI = 1.8-31.8) and mental support of the mother (OR = 3.0, CI = 1.1-8.7) were found to be significant risk factors for mood disorders in these young children.

Summary of Findings

It has been acknowledged that behavior problems in preschool children may be related to multiple factors, and could be related to contextual factors such as children's

relationship with their family and/or friends in home and school settings. Earlier studies quantified the readjustment on part of the individual after a single traumatic event, as a life change unit (Coddington, 1972; Holmes & Rahe, 1967). This group of early studies in the 1960's and 1970's, established the fact that the more life events experienced by an individual, the greater the readjustment required. There are limitations to studies associating children's behavior problems to just one or two factors since problems may result from multiple and interacting factors.

Subsequent studies considered children's behavior problems in terms of many factors. Some of these studies revealed certain methodological flaws such as those related to study design (Hackett, 2000), sample recruitment (Cuccaro, Holmes, & Wright, 1993), measurement techniques (Coddington, 1972), including inadequate operational definitions and data collection methods. These problems undermine the validity of the findings. As a result, it is important that all possible factors be assessed and controlled for, without accounting for a single factor or two to predict behavior problems. Also, these studies have not addressed all the risk factors (physical, developmental, social, emotional, and psychological) which may predict which children have behavior problems.


DEMANDS
CAPABILITIES
OUTCOME
CONCEPTS
Stressors:
Intra-personal (Physiological & Psychological)
Inter-personal (Family)
Extra-personal (Child- - Care Setting
Family Resources - Social Support, Income
Stress Response Physiological and Psychological
Coping methods
Good
Decreased level of stress in child care
Poor
Increased level of stress in child care
STUDY VARIABLES
Family Stress (Major life events Questionnaire & Daily Events Questionnaire)
Covariates
Age
Sex
Gender
Social Support
Ethnicity
Socio-economic Status
Family Routines (The Family Routines Inventory)
Child Care Stress (Child Care Events Questionnaire)
Predictor Variables
Outcome Variables

Conceptual Framework: Family Adjustment and Adaptation Response Model

The Family Adjustment and Adaptation Response (FAAR) model (Patterson, 1988) can be used to understand a family's response to stressful life events. The three domains that are emphasized in this model are: sources of stress, mediators of stress, and outcomes of stress. The sources of stress (stressors) are called the demands which, can emerge from the individual members, the family unit or from the community. The mediators of stress are the capabilities of the family in the form of family resources and coping behaviors. The outcome of the family to achieve a balanced functioning is called family functioning or family adaptation. Both can range on a continuum from good to poor. In general, good outcomes reflect good physical and mental health of the family members, optimal functioning of the members and a family that can accomplish its life–cycle tasks. On the other hand poor outcomes can result in some form of mal-adaptive functioning, which can be manifested in a variety of ways amongst the members of the family.

The FAAR Model has not been used to predict or explain stress in child care in preschool-aged children associated with family stress. However, it has been used quite often in the family literature to help explain resilience in children's adaptation to negative life events and stressed environments (Garmezy, 1991). The extent to which the FAAR model is capable of accounting for some of the stress displayed by pre-school children will be tested in this study.

Assumptions of the Study

Family routines help to organize family life, define roles and serve as protective factors in times of stress.

Stress experienced by preschool-aged children in child care, is perceived in a similar way for all the events, by all teachers as reported in the child care events questionnaire.

Life events that occur in the family are considered to have a distressing effect on the family.

All parents in the sample have perceived major life events and daily life events in a similar way for all the events.

Research Questions

1. What are the psychometric properties of the Child Care Events Questionnaire (CEQ).

2. What are the most frequently occurring stressful life events, as reported by parents of preschool-aged children?

3. What are the most frequently occurring daily life events as reported by parents of preschool-aged children?

4. What is the relationship between stressful life events and daily life events

5. What is the stability of daily life events between Time 1 and Time 2?

6. What are the most frequently occurring stressors for preschool – aged children as reported by child care teachers?

7. What is the relationship between children experiencing stressful events at home and stressful events in the child care settings?

8. What is the relationship between children experiencing daily life events and stressful events in the child care settings?

9. What is the relationship between family routines and stressful events in the child care settings?

10. Does the relationship between stressful events at home and in child care settings for a child depend upon the family's level of routines?

11. Does family stress (stressful life events, daily life events) and family routines predict child care stress?

Definition of Terms

Preschool-aged Child. A child between ages of 2 and 5 (From APA Thesaurus of Psychological Index Terms, 8th edition).

Independent Variables

Family stress. The occurrence of a number of major life events that occur in the family and affect the psychosocial, biological, and behavioral domains of the members in the family as measured by the Major Life Events Questionnaire (Coddington, 1972), and the Daily Events Questionnaire.

Family routines. Daily activities performed in a family such as having dinner together, going to church etc as measured by the Family Routines Inventory (Boyce et al., 1977).

Dependent Variable

Child care stress. Total number of potentially stressful events that occurred in child care centers, as rated by teachers bimonthly about one –day in the center as measured in the Child Care Events Questionnaire (CEQ).

CHAPTER III- METHODOLOGY

Overview of the Original Study

The Preschool Health Project (PHP), was a prospective cohort study, with 2 one-year cohorts to determine the relationship between stress (family, child care stress, and cardiovascular reactivity) and health (respiratory illness, and injuries) in pre-school-aged children attending child care centers (Boyce et al., 1995). Two cohorts, with a total sample of one hundred and forty five children (mean age 48 months, range 30-72 months) and their parents were enrolled in the study from four urban child care centers. The recruitment occurred in the fall of 1989 and 1990 with each child being followed for a period of 12 months. The primary outcome measure for the larger study was the presence of respiratory illness in children using weekly respiratory tract examinations by a nurse and injuries reported by teachers on standardized injury report forms. Study results showed that reactive children (children who had changes in their mean arterial blood pressure and heart rate) sustained higher illness rates under high- stress conditions. Injury results related to stress were not published

Sample Characteristics

A convenience sample of 145 children and their parents were recruited for the study but only 137 children continued for the entire 12 month study period. The study sample consisted of 60 girls and 77 boys from middle class families, which included 100 Caucasian, 2 Black, 7 Asian, 1Hispanic, and 27 other race or biracial family units.

Selection Criteria

The parents were recruited through parent meetings and one- on- one contacts with research staff at each center from the preschool-aged populations of two private and two university-affiliated child care centers. Parents were required to read English and give consent. Children taking prescription medication on a regular basis were excluded from the study.

Current Study Design

The following section describes the study design, setting, selection criteria and the variables being used for the proposed study.

Study Design

The proposed study is a historical cohort design. Historical research includes systematic studies designed to establish facts and relationships concerning past events (Polit, 1999). It is usually done to test new hypotheses or address new questions from existing data (Polit, 1999). This method was chosen because it has the advantage of being cost effective, efficient and there is no loss to follow-up.

Research Setting

The research setting included four university urban child care centers, two were university affiliated and two were private centers

Sample

Preschool – aged children enrolled in participating child care centers.

Sample Criteria

Parents were required to read English and give consent. Children taking prescription medication on a regular basis were excluded from the study.

Human Subjects Committee

This study obtained approval from the University of California, San Francisco Committee on Human Research. Approval no: 04025121 dated 12th May 2004.

Instruments

Psychological stress in the environment was assessed using two approaches. First, stressful family life events that had occurred in the previous 12-month period were ascertained by parents reports using a list of major life events derived from the instruments of (Coddington, 1972) and (Monaghan, Robinson, & Dodge, 1979) (See Appendix- A). This scale is an expanded version of Coddington's 30-item instrument. It includes 40 items, such as parental divorce, death of a loved one, or birth of a sibling. The questionnaire was sent to the parents through mail. Parents were asked to recall if any life events had occurred in the last 12 months, and to indicate that by "X" if it happened in the first column. They were also asked to rate "YES" or "No" if the event "upset," "bothered," or "disturbed" the child in the second column. A frequency score is calculated by summing all the items that occurred in column 1. A distress score is the sum of all the items that "upset," "bothered," or "disturbed" the child in the second column. A composite major life events score is calculated by summing the frequency score and the distress score.

Second, the Daily Events Questionnaire (DEQ) (see Appendix B), is a questionnaire designed to measure daily stressors as reported by the parent. Parents received the questionnaire by mail. This questionnaire consists of 28 items divided into two sections: The first section consists of 16 items that describe daily events that the

child may have experienced in the last four months; items in this section included events and experiences such as "changed meal time schedule," "parents went away on a special trip" and "had a new baby sitter." The second section consists of 12 items that the child may have experienced in the last 2 weeks. Items in this section also included events and experiences such as "had toileting problems," "had disagreements regarding food" and "disciplined when she or he did something wrong." For each item parents reported whether the experience i) occurred indicated by "X" ii) how many times did it occur for the child during the last four months and last 2 weeks, and iii) if it happened, did it ever upset, bother or disturb the child (Yes/ No). For all items, a frequency score, and a distress score was calculated. Frequency score was the sum of all column # 1 scores as indicated by "X." Distress scores were calculated by summing the Yes's in column # 3. Psychometric properties of this instrument will be established as a part of the study.

Routines of the family were measured using the 28-item Family Routines Inventory (Boyce et al., 1977) (Appendix C).There are 28 items in this inventory. Examples of items on the scale included "whole family eats dinner together," "children do regular household chores," "family has a quiet time together in the evening when everyone talks or plays quietly." Parents reported how i) frequently routines happened in their family on a 4 point Likert scale, Always -everyday =3, 3-5 times a week = 2, 1-2 times a week =1, Almost never = 0, and ii) how important the routine was in keeping their family strong on a 3 point Likert Scale. 3 = Very Important 2 = Somewhat Important 1= Not at all Important. Scores can range from 0 to 84. Low Scores indicate absence of family routines or their lack of implementation.

The Child Care Events Questionnaire (CEQ) (see Appendix D), is a questionnaire designed to measure stressors (daily events, experiences, or demands that made it difficult for preschool-aged child to cope) occurring in child care, and was completed every 2 weeks on Mondays throughout the study period by the primary teacher for each child. This questionnaire was designed for this study and was developed by asking child care teachers to list the common occurrences in child care that have the potential to be stressful for the child. The items were reviewed by a panel of child experts and modified to include 24 items. The questionnaire was pilot tested in two centers for ease of completion, time to complete, and relevance to stress in child care.

This questionnaire consists of 24 items describing common events that are potentially stressful for a preschool-aged child. Items included events and experiences such as "exclusion or rejection by peers" "Change in drop off or pick up routine" and "problem with toileting." For each item teachers were asked to record whether the experience had occurred for the child that day, and if the child was disturbed, bothered, or upset by the event. "1" was marked in the column if the event occurred, and "2" was marked if the event occurred and disturbed, bothered, or upset the child. For each child a child care stressful event frequency score was calculated by summing the number of stressors (all the 1's) reported for each child over a 12 month period. Distress score was the frequency of stressors that were marked "2." Rate of Events in Child Care will be calculated as total number of events / (Total number of weeks in child care) x Maximum number of weeks forms were filled. Validity and reliability were not previously noted.

Data Collection Procedures

This study was explained to potential participants who met the inclusion criteria. Participants were enrolled after they had signed the consent .The socio demographic data of the family (See Appendix E) and teachers (See Appendix F) were collected by a parent teacher completed questionnaires. The major life events questionnaire, the daily life questionnaire, the family routines inventory were completed by the parents within a month of enrollment for two time periods of the study. The child care events questionnaire was completed twice a month on alternate Mondays by the primary teacher for the child throughout the year-long study period.

Data Analysis

The investigator used SPSS 12.0 statistical package to score and analyze the data. Histograms and scatter plots of variables were examined for skewness, distribution of data and outliers. The p value for this study was set for 0.05. Descriptive Statistics using means and standard deviations for quantitative variables, and frequencies and percentages for categorical variables were summarized for all study variables. Bivariate relationships between pairs of continuous study variables were determined using Pearson's Correlation. To answer the last research question a regression analysis was used to investigate the relationship between the dependent variable (stress in child care) and the independent variables, namely, stressful life events, daily life events, family routines.

CHAPTER IV: RESULTS

Study Results

This historical prospective design examined whether stressful life events (MLE), and daily life hassles (DLE) in a family influence stress experienced by preschool-aged children in child- care settings(CEQ), and whether there was relationship between family stress (major life events, daily life events) and family routines (FRI). Demographic characteristics of the study sample and results in the order of research questions including descriptive data are presented in this section.

Demographic Characteristics

Table 2. Sample Demographic Characteristics N = 145

Characteristic	**Mean**	**S.D**
Age (years)	3.952	0.65
Age (months) child care began	8.105	9.07
Months at center	17.11	11.76
Education level (years) of parent completing form	18.25	1.88
Education level (years) of spouse	18.29	2.20
Characteristic	**N**	**%**
Sex		
Boys	81	55.9
Girls	64	44.1
Ethnicity of child		
European American	106	73.1
Biracial	18	12.4
Asian	7	4.80
African American	2	1.40
Other	2	1.40
Hispanic/ Latino	1	0.70
Ethnicity of mother		
European – American	6	4.10
Asian	4	2.80
Biracial	3	2.1
Hispanic / Latino	2	1.4
Other	1	.7
Marital Status		
Married	124	85.5

Divorced	8	5.5
Never Married	6	4.1
Separated	4	2.8
Type of Longest Care		
Child care center	64	44.1
Other home	42	29.0
Baby sitter	33	22.8
Relative	2	1.4
Relative out of home	1	.7
Parent Completing Form		
Mother	126	86.9
Father	5	3.4

The demographic data of the sample is presented in Table 2. The study sample consisted of 145 children of which 81 were boys and 64 were girls. The mean (SD) age of the children in years was 3.9 (.65). The mean (SD) age in months child care began was 8.1(9.07). Nearly all of the sample was European - American 73.1%, while other ethnicities included Asian (4.8%), Hispanic (.7%), African - American (1.4%), Biracial (12.4%), and Other (1.4%). Eighty five percent of the parents were married, 4.1% never married, 5.5% were divorced and 2.8% separated.

Results by Research Question

1 .What are psychometric properties of the Child Care Events Questionnaire (CEQ).

First, all data on the CEQs for 145 children were checked to ensure that they were sufficiently observed to allow the calculation of the intraclass correlation coefficient. There were two inclusion criteria. Although children were observed bimonthly for a 1 year period (for a total of 26 observations), only children with at least 13 consecutive observations (6 months), beginning from the third week (data were collected differently in the first two weeks) were included. This was considered a sufficient number to allow the calculation of an intraclass correlation coefficient. There were 57 children with

missing data for one or more observations, either because of child absence or the teacher not having completed the form. If data were missing for two or more consecutive assessments (i.e., the child had not been rated for a month or more), children were not included in the analysis.

In addition, the second inclusion criteria were that 13 CEQs had to have 20 of the 21 events marked by the teacher. Only 88 of the 145 children met both of these criteria. Therefore, 57 children were excluded either because they were in child care for fewer than 13 weeks or were rated on fewer than 20 events on the CEQ or both.

The frequency for each CEQ event across the13 days over 6 months were calculated. see Table3. The mean occurrence of event by sample was calculated by dividing the total number of times the event occurred by the number of children (N = 88). For example, the total number of times the first event (different teacher) occurred was 503. This was divided by number of children equal to 88 to obtain a mean and standard deviation of 5.7 (2.48)

Table 3.
Frequency of Events on the Child care Events Questionnaire across 13 Observations for 6 Months N = 88 Children

Event Number	**Name of the Event**	**Frequency** (Total # of times item was marked)	**Mean (SD)**
1	Different teacher	503	5.70 (2.48)
2	Change in daily routine	280	3.18 (2.04)
3	Performed in front of group	239	2.71(3.78)
4	Short staffing	174	1.97 (1.85)
5	Disciplined	170	1.93 (2.43)
6	Fatigue or nap difficulties	162	1.68 (2.11)
7	Major conflict	138	1.57 (1.50)

	with peers		
8	Problem with activity transition	128	1.45 (1.66)
9	Teacher stress	89	1.01 (1.02)
10	Change in drop off/pick up routine	100	1.13 (1.17)
11	Field Trip	98	1.1(1.57)
12	Peer exclusion /rejection	71	0.80 (1.29)
13	Forgot sharing item	31	0.35 (0.81)
14	Child's toy got lost	19	0.21 (0.57)
15	Problem with hunger or food	53	0.60 (1.29)
16	Problem with toileting	47	0.53 (1.24)
17	Self- dressing difficulties	59	0.67 (1.07)
18	Motor task challenges	24	0.27 (0.63)
19	Activity too frustrating	59	0.67 (1.07)
20	Left comforting object at home	18	0.20 (0.57)
21	Best friend absent	9	0.10 (0.30)

The eight highest mean events are summarized here "different teacher" had the highest mean of all the CEQ events followed by "change in daily routine" and "performed in front of group" The following events were experienced a mean of two times: "short staffing," "disciplined," "fatigue or nap difficulties," "major conflict with peers," and "problem with activity transition." The events that were observed a mean of once were: "teacher stress," "change in drop off pick up routine," and "field trip."

An intraclass correlation (ICC) was used for determining the reliability of teacher ratings, for the occurrence of the event. An intraclass correlation coefficient can be used

to quantify consistency of ratings across time (Zou & Donner, 2004). In contrast Cronbach's alpha is a coefficient of reliability (or consistency), that measures how well a set of items measures a single unidimensional latent construct (Nunnaly, 1978). Cronbach's alpha could not be used to evaluate reliability for the CEQ because the items on the CEQ are not internally consistent; in other words, they are independent of each other. Instead each of the items on the CEQ was examined across 13 observations to assess consistency of teachers' ratings of children's behaviors using the intraclass correlation coefficient (a two way mixed model, time-factor fixed, child-factor random).

Table 4 shows the intraclass coefficients for all 21 behaviors on the CEQ.

Table 4.
Intraclass Correlation of 21 Items on the Child care Events Questionnaire

Number	**Name of the Event**	**Intra- Class Correlation Coefficient**
1	Different teacher	0.52
2	Short staffing	0.58
3	Teacher stress	0.14
4	Change in drop off/pick up routine	0.27
5	Peer exclusion /rejection	0.59
6	Major conflict with peers	0.42
7	Performed in front of group	0.92
8	Disciplined	0.78
9	Forgot sharing item	0.57
10	Left comforting object at home	0.41
11	Child's toy got lost	0.39
12	Problem with hunger or food	0.71
13	Fatigue or nap difficulties	0.73
14	Problem with toileting	0.72
15	Self- dressing difficulties	0.57
16	Motor task challenges	0.38
17	Field Trip	0.64
18	Change in daily routine	0.47
19	Problem with activity transition	0.58
20	Activity too frustrating	0.49
21	Best friend absent	0.00

As can be seen in the table above, the coefficients range as low as 0.00 and high as 0.92. Sixteen items have a coefficient above 0 .40, which is the moderate range. This indicates moderate stability across time.

Subscale Development

The following steps were involved in the development of the subindices of the CEQ:

Identification of Subindices

Neuman's model describes the person as being an open and dynamic system that is surrounded by a normal line of defense to deal with stressors in the environment. The normal line of defense as described by Neuman "represents what the client has become, the state to which the client has evolved over time, or the usual wellness level" (Neuman, 1994, p. 30). The normal line of defense is considered to by dynamic. This is due to it's ability to become and remain stable as the client system deals with stressors throughout the life continuum while protecting the basic structure of the client. The stressors that could alter the normal line of defense in an individual could evolve from within the person himself (intrapersonal), when engaging with other individuals (intrapersonal), or from factors not related to person himself (extrapersonal). Any single or multiple stressors have the ability to reduce the effectiveness of this flexible line of defense. This line of defense when ineffective in response to a stressor results in the client exhibiting symptoms of instability or illness.

Incorporation of Specific Items Under Each Subindex

Each index comprised a number of items. The first subindex, intra-personal stressors included 11 items that occurred for or within the child. Items included in this

subindex were the numbers 7, 8, 9,10, 11,12,13,14,15,16, and 20. The second subindex, intra-personal stressors, included 3 items that occurred between the child and his or her peers. The items included numbers 5, 6, and 21. The third subscale consisted of 7items that were outside the child's control. The items included numbers 1, 2, 3, 4,17, 18, and 19.See Table 5. for events under each index

Table5.

Indices of Stressors in Preschool Children by Events

INDEX	LIST OF EVENTS	TOTAL NUMBER OF ITEMS per index
I. Intra-personal stressors		
	Performed in front of group	
	Disciplined	
	Forgot Sharing item	
	Left comforting object at home	
	Toy got lost	5
	Problem with hunger or food	
	Fatigue or nap difficulties	2
	Problem with Toileting	
	Activity too frustrating	
	Self Dressing difficulties	
	Motor Task Challenges	4
Index Total		**11**
II. Inter-personal stressors		
	Peer exclusion Rejection	
	Major conflict with peers	
	Best friend absent	3
Index Total		**3**
III. Extra-personal stressors		
	Different Teacher	

	Short Staffing	
	Teacher Stress	3
	Field Trip	
	Change in Daily Routine	
	Problem with Activity Transition	
	Change in drop off/pick up routine	4
Index Total		7
Overall Total		**Total = 21 items**

Interpersonal Stressors were significantly related with Intrapersonal Stressors at p< .01

Research Question 2. What are the most frequently occurring stressful life events (MLE) as reported by parents of preschool-aged children?

The major life events questionnaire was used to measure major events that occurred in a family at Time 1 and Time 2 (between July 1990 and November 1990). The overall descriptive statistics for the Major Life Events Questionnaire (MLE) for Time 1 and Time 2 are shown Table 6.

Table 6.
Descriptive Statistics for MLE at Time1 and Time2.

	Mean	S.D	Min	Max	Median
MLE SUM of Events Time 1 (n =138)	5.62	3.74	0	16	5
MLE Sum of Events Time 2 (n = 135)	2.88	2.73	0	16	2

Table 7 shows the shows the descriptive statistics for the 38 MLE items. The items are listed in order of observed frequency. The most frequent stressful life events during Time 1 reported by the parents of the study were:

"Increase in number of child's arguments with parents" (46.4%)

"Change to a new nursery school or preschool" (39.1%)

"Beginning nursery school" (36.2 %)

"Change of a parents occupation requiring his or her increased absence from home" (25.4%)

Table 7.
Frequency of Major Life Events Items Time 1 Cohorts 1& 2 (excluding "other" items, nos 39 and 40). n = 137 Children.

Item	Item Name	Not observed	%	Observed	%
1	Increase in number of child's arguments with parents	73	52.9	64	46.4
2	Change to a new nursery school or preschool	83	60.1	54	39.1
3	Beginning nursery school	87	63	50	36.2
4	Change of a parents occupation requiring his or her increased absence from home	102	73.9	35	25.4
5	Change in parents financial status	107	77.5	30	21.7
6	Moved to a new home	109	79.0	28	20.3
7	Increase in number o f arguments between child and siblings	109	79.0	28	20.3
8	Increase in number of arguments between parents	112	81.2	25	18.1
9	Outstanding personal achievement by your child.	118	85.5	19	13.8
10	Mother being pregnant	118	85.5	19	13.8
11	Change in child's acceptance by peers	119	86.2	18	13.0
12	Birth of a brother or sister	120	87.0	17	12.3
13	Pet died	121	87.7	16	11.6
14	Decrease in number of child's arguments with parents	123	89.1	14	10.1
15	Addition of another adult to family	123	89.1	14	10.1
16	Mother beginning work	125	90.6	12	8.7
17	Decrease in number of arguments between parents	128	92.8	9	6.5
18	Death of a grand parent	130	94.2	7	5.1
19	Death of other significant family member or friend	130	94.2	7	5.1
20	Loss of job by a parent	131	94.9	6	4.3

21	Parents developed an emotional problem that lasted for 3 weeks or more	131	94.9	6	4.3
22	Death of close friend of the child's	132	95.7	5	3.6
23	Marital separation of parents	132	95.7	5	3.6
24	Someone in family was victim of a crime	132	95.7	5	3.6
25	Serious illness requiring hospitalization of a parent	133	96.4	4	2.9
26	Serious illness requiring hospitalization of brother or sister	134	97.1	3	2.2
27	Divorce of parents	134	97.1	3	2.2
28	Significant change in parents state of health	134	97.1	3	2.2
29	Child having a visible congenital deformity	135	97.8	2	1.4
30	Brother or sister leaving home	136	98.6	1	.7
31	Discovery of being an adopted child	136	98.6	1	.7
32	Jail sentence of a parent for 30 days or less	136	98.6	1	.7
33	Death of a parent	137	100	-	-
34	Child having a visible deformity	136	98.6	1	.7
	Death of a brother or sister	136	98.6	1	.7
35	Serious illness requiring hospitalization of the child	136	98.6	1	.7
37	Marriage of a parent to a step parent	137	100	-	-
38	Jail sentence of a parent for 1year or more	137	100	-	-

Table 8 shows the frequency of major life events at Time 2 for Cohorts 1 and 2. The most frequent stressful life events during Time 2 as reported by the parents of preschool children were "Increase in number of child's arguments with parents" (26.7 %), Increase in number o f arguments between child and siblings(17%) "Outstanding personal achievement by your child" (16.3%) and "Decrease in number of child's arguments with parents (14.1%).

Table 8
Frequency of Major Life Events at Time 2 for Cohorts 1& 2 (excluding "other" items, nos 39 and 40). (n = 135 Children)

Item #	Item Name	Not observed	%	Observed	%
1	Increase in number of child's arguments with parents	99	73.3	36	26.7
2	Increase in number o f arguments between child and siblings	112	83	23	17
3	Outstanding personal achievement by your child.	113	83.7	22	16.3
4	Decrease in number of child's arguments with parents	116	85.9	19	14.1
5	Change in parents financial status	119	88.1	16	11.9
6	Change of a parents occupation requiring his or her increased absence from home	120	88.9	15	11.1
7	Change in child's acceptance by peers	123	91.1	12	8.9
8	Moved to a new home	124	91.9	11	8.1
9	Increase in number of arguments between parents	125	92.6	10	7.4
10	Addition of another adult to family	125	92.6	10	7.4
11	Change to a new nursery school or preschool	126	93.3	9	6.7
12	Decrease in number of arguments between parents	126	93.3	9	6.7
13	Beginning nursery school	129	95.6	6	4.4
14	Mother beginning work	129	95.6	6	4.4
15	Mother being pregnant	129	95.6	6	4.4
16					
17	Birth of a brother or sister	130	96.3	5	3.7
18	Pet died	131	97	4	3
19	Parents developed an emotional problem that lasted for 3 weeks or more	132	97.8	3	2.2
20	Death of other significant family member or friend	132	97.8	3	2.2

21	Significant change in parents state of health	132	97.8	3	2.2
	Serious illness requiring hospitalization of a parent	132	97.8	3	2.2
22	Death of a grand parent	133	98.5	2	1.5
23	Serious illness requiring hospitalization of a brother or sister	133	98.5	2	1.5
24	Brother or sister leaving home	133	98.5	2	1.5
25	Marital separation of parents	133	98.5	2	1.5
26	Serious illness requiring hospitalization of the child	134	99.3	1	.7
27	Loss of job by a parent	134	99.3	1	.7
28	Death of close friend of the child's	134	99.3	1	.7
29	Child having a visible congenital deformity	134	99.3	1	.7
30	Discovery of being an adopted child	134	99.3	1	.7
31	Divorce of parents	134	99.3	1	.7
32	Jail sentence of a parent for 30 days or less	135	100	0	0
33	Death of a parent	135	100	0	0
34	Someone in the family was a victim of crime	135	100	0	0
35	Child having a visible deformity	135	100	0	0
36	Death of a brother or sister	135	100	0	0
37	Marriage of a parent to a step parent	135	100	0	0
38	Jail sentence of a parent for 1year or more	135	100	0	0

Research Question3. What are the most frequently occurring daily life events (DLE) as reported by parents of preschool-aged children?

Table 9 shows the descriptive statistics for the overall sums of events and sums of distressing events for Times 1 & 2

Table 9.
Descriptive Statistics for the Daily Life Events Questionnaire at Time1 (n = 128) and Time 2 (n = 129)

	Mean	S.D	Min	Max	Median
DLE SUM of Events Time 1	11.12	3.964	1	24	12.00
DLE Sum of distressing events Time 1	5.31	3.398	0	14	5
DLE Sum of Events Time 2	10.56	3.381	0	19	11.00
DLE Sum Distressing Events Time 2	4.60	4.00	0	15	4

Table 10 shows the frequency of daily life events as reported by the parents of preschool teachers at Time1 for cohorts 1 and 2. The top three frequent daily life events as reported by the parents of preschool children were "Went on a special outing or event with parents" (85.2%), "Attended or had a party" (82.7%) and "Was disciplined when she/he did something wrong or bad" (76.5%).

Table 10.
Frequency of Daily Life Events Items Time 1 Cohorts 1& 2 excluding "other" items, nos 16 and 28. (N= 81 Children)

Item #	Item Name	Not observed	%	Observed	%
1	Went on a special outing or event with parents	12	14.8	69	85.2
2	Attended or had a party	14	17.3	67	82.7
3	Was disciplined when She/he did something wrong or bad	19	23.5	62	76.5

4	Had disagreements involving getting dressed	20	24.7	61	75.3
5	Had disagreements about mealtime behavior at home or away from home	29	35.8	52	64.2
6	Had disagreements involving food.	31	38.3	50	61.7
7	Spent one or more nights away from parents home	33	40.7	48	59.3
8	Had nightmares or bad dreams	38	46.9	43	53.1
9	Parent had concerns about too many demands on his/her time	38	46.9	43	53.1
10	Learned a new skill requiring specific instruction	41	50.6	40	49.4
11	Had overnight visitor for more than two nights	42	51.9	39	48.1
12	Had disagreements involving bedtime	41	50.6	39	48.1
13	Fought with or was teased by siblings	43	53.1	38	46.9
14	Parent (s) went away on a trip without child	48	59.3	33	40.7
15	Parent could not spend usual amount of time with child	58	71.6	23	28.4
17	Changed bedtime schedule or routine not related to illness	59	72.8	22	27.2
18	Fought with or was teased by other children	59	72.8	22	27.2
19	Had a new baby sitter	63	77.8	18	22.2
20	A special friend moved away or is no longer available	64	79	17	21.0
21	Changed mealtime schedule	64	79	17	21.0
22	Attempted a challenging task and	66	81.5	15	18.5

	failed				
23	Had toileting problems	65	81.5	15	18.5
24	Was cared by a baby-sitter or child care program more often or longer than usual	73	90.1	8	9.9
25	Spent one or more nights away at other parents home	74	91.4	7	8.6
26	Other children pressured child to do something he/she did not want to do	74	91.4	7	8.6
27	Got lost	78	96.3	3	3.7

Table 11 shows the most frequent daily life events at Time 2 for cohorts 1 and 2. The most frequent items as reported by the parents of preschool children were: "Attended or had a party" 89.7% "Went on a special outing or event with parents" (83.1%), "Had disagreements involving getting dressed" (76.5), "Was disciplined when She/he did something wrong or bad" 74.3%

Table 11.

Frequency of Daily Life Events at Time 2 Cohorts 1& 2 (excluding "other" items, nos 16 and 28). (n = 136 Children)

Item #	Item Name	Not observed	%	Observed	%
1	Attended or had a party	14	10.3	122	89.7
2	Went on a special outing or event with parents	23	16.9	113	83.1
3	Had disagreements involving getting dressed	32	23.5	104	76.5
4	Was disciplined when She/he did something wrong or bad	35	25.7	101	74.3
5	Had disagreements involving food.	51	37.5	85	62.5
6	Parent had concerns about too many demands on his/her time	55	40.4	81	59.6
7	Had disagreements about mealtime behavior at home or away from home	61	44.9	75	55.1

8	Had disagreements involving bedtime	65	47.8	71	52.2
9	Learned a new skill requiring specific instruction	69	50.7	67	49.3
10	Spent one or more nights away from parents home	75	55.1	60	44.1
11	Had overnight visitor for more than two nights	77	56.6	59	43.4
12	Fought with or was teased by siblings	78	57.4	58	42.6
13	Changed bedtime schedule or routine not related to illness	79	58.1	57	41.9
14	Parent (s) went away on a trip without child	80	58.8	56	41.2
15	Had nightmares or bad dreams	81	59.6	54	39.7
16	Parent could not spend usual amount of time with child	89	65.4	47	34.6
17	Fought with or was teased by other children	91	66.9	45	33.1
18	Changed mealtime schedule	96	70.6	39	28.7
19	Had a new baby sitter	102	75	34	25
20	A special friend moved away or is no longer available	104	76.5	32	23.5
21	Spent one or more nights away at other parents home	127	93.4	7	5.1
22	Had toileting problems	107	78.7	29	21.3
23	Attempted a challenging task and failed	117	86	19	14
24	Was cared by a baby-sitter or childcare program more often or longer than usual	117	86	19	14
25	Other children pressured child to do something he/she did not want to do	126	92.6	10	7.4
26	Got lost	130	95.6	6	4.4

Research Question 4. What is the relationship between stressful life events and daily life events?

The association between the subscale and total scores for the MLE and DLE was calculated with the Pearson product moment correlation. Table 12 shows there was no significant correlations between the summary scores for the DLE indices and the MLE

summary scores for Time 1 and 2. There were also no significant correlations found between the DLE distress score and the MLE for Time 1 and Time 2.

Table 12.
Correlations between MLE and DLE

	MLE Total (TIME 1) n =130	MLE Total (TIME 2) n = 127
DLE Sum of Events Time 1	.097	.103
DLE Sum of distressing events Time 1	.032	.062
DLE Sum of Events Time 2	.064	.134
DLE Sum Distressing Events Time 2	.008	.099

Research Question 5. What is the stability of daily life events between Time 1and Time 2.

The mean (SD) of events for on the daily life events questionnaire for time 1 was 11.12 (3.96) and the mean (SD) on the daily life events questionnaire for time 2 was 10.56 (3.38). The Pearson product between the DLE at Time 1 and Time 2 was statistically significant ($r = .470$; $p < .01$) ($n = 128$).

Research Question 6.What are the most frequently occurring stressors for preschool – aged children as reported by child care teachers? (CEQ)

Table 13 shows the frequency of events on the Child Care Questionnaire. The most frequent child care events Questionnaire as reported by the teachers of preschool children was "Different Teacher" (41.0%), "Performed in front of group" (24.2%) "Change in daily routine" (21.3%) and "short staffing" (15.2%).

Table 13.

Child Care Events Questionnaire: Frequency of Events n = 145 Children

Item #	Name of the Event	Event Not Occurred (N)	Event Not Occurred (%)	Event Occurred (N)	Event Occurred (%)
1	Different Teacher	1386	58.3	976	41.0
2	Performed in front of group	1791	75.3	576	24.2
3	Change in daily routine	1852	77.9	506	21.3
4	Short staffing	2004	84.3	362	15.2
5	Fatigue of nap difficulties	2063	86.8	256	10.8
6	Disciplined	2034	85.5	217	9.1
7	Teacher Stress	2156	90.7	210	8.8
8	Field Trip	2192	92.2	180	7.6
9	Problem with activity transition	2132	89.7	179	7.5
10	Change in drop off/pick off routine	2140	90.0	171	7.2
11	Forgot Sharing Item	2274	95.6	100	4.2
12	Major conflict with peers	2081	87.5	98	4.1
13	Self dressing difficulties	2293	96.4	74	3.1
14	Problem with hunger of food	2283	96.0	74	3.1
15	Problem with toileting	2301	96.8	57	2.4
16	Peer-Exclusion Rejection	2224	93.5	55	2.3
17	Activity too frustrating	2261	95.1	52	2.2
18	Motor Task Challenges	2325	97.8	44	1.9
19	Left Comforting object at home	2347	98.7	26	1.1
20	Child Toy got lost	2342	98.5	23	1.0
21	Best Friend Absent	2111	88.8	19	0.8

Table 14 shows the Descriptive Statistics for the Child Care Events Questionnaire.

Table 14.
Descriptive Statistics for the Child Care Events Questionnaire: Subindices and Total Score (n = 137)

CEQ subindices	Mean	Standard Deviation	Min	Max	Median
Total events observed	.1031	.04019	.01	.23	.0973
Intrapersonal Events Observed	.0701	.04816	.00	.20	.0672
Interpersonal Events Observed	.0714	.07310	.00	.38	.0476
Extrapersonal Events Observed	.1692	.06308	.01	.33	.1688

Research Question 7. What is the relationship between children experiencing stressful life events, and stressful events in the child care settings?

All correlations between the Major Life Event Questionnaire (MLE) and the Child care Events Questionnaire were weak. The only significant correlation was between MLE Time 1 and CEQ extrapersonal events ($r = .215$; $p < .05$). Table 15 shows the correlations between the Major Life Events Questionnaire (MLE) at Time 1 and Time 2 and Child care Events Questionnaire (CEQ).

Table 15.
Correlations between Major Life Events Questionnaire (MLE) at Time 1 and Time 2 and Child care Events Questionnaire (CEQ).(n = 132 Time1) (n = 129 Time 2)

MLE Total	CEQ Total	CEQ Intrapersonal Events	CEQ Interpersonal Events	CEQ Extrapersonal Events
MLE (Time 1)	-.010	.192	-.077	-.215*
MLE (Time 2)	.002	.021	.021	-.035

Research Question 8. What is the relationship between children experiencing daily life events, and stressful events in the child care settings?

Table 16 shows the correlations between Daily Life Events Questionnaire (DLE) at Time 1 and Time 2 and Child care Events Questionnaire The correlations between the DLE and CEQ indices were weak. The only significant correlations were between DLE (Time 1) and extrapersonal events on the CEQ ($r = -.222$; $p < .05$), intrapersonal events and the CEQ, and DLE (Time 2) ($r = .213$; $p < .05$), and finally extrapersonal events on the CEQ and (Time 2) ($r = -.175$; $p < .05$).

Table 16.
Correlations between Daily Life Events Questionnaire (DLE) at Time 1 and Time 2 and Child care Events Questionnaire (CEQ). (n = 129 at Time 1) (n = 128 at Time 2)

DLE Total	CEQ Total	CEQ Intrapersonal Events	CEQ Interpersonal Events	CEQ Extrapersonal Events
DLE (Time 1)	- .092	.059	-.067	-.222*
DLE (Time 2)	.070	.213*	.100	-.175*

Research Question 9. What is the relationship between stressful life events, daily life events, and family routines in the child care settings?

The Family Routines Inventory mean (SD) was 53.50 (8.298) and the minimum number of times routines were practiced in each family was 29 and the maximum was 75.

Table 17 shows the correlations between the DLE, MLE, and the FRI. The only significant correlation found was between DLE Frequency (Time 2) and Family Routines Inventory (Importance) ($r = .212$; $p < .05$). (n =132).

Table 17.
Relationships between the MLE, DLE and the FRI

Instrument	Family Routines Inventory (FRI) (Frequency)		Family Routines Inventory (FRI) (Importance)	
MLE Frequency (Time 1)	.045	n = 133	.042	n = 132
MLE Frequency (Time 2)	-.111	n = 130	-.033	n = 129
DLE Frequency (Time 1)	-.070	n = 134	.114	n = 133
DLE Frequency (Time 2)	.043	n = 133	.212*	n = 132

Research Question 10. Does the relationship between stressful events at home and in child care settings for a child depend upon the family's level of routines?

The analysis of this question could not be done because of the non – significant and very weak correlations between the variables.

11. Does family stress (stressful life events, daily life events) and family routines predict child care stress?

Table 18 shows the predictors of CEQ Extrapersonal Behaviors. Approximately, 7.1% of the variance in extrapersonal behaviors can be explained by the combination of major life events, daily life events, and family routines ($F(3,121) = 3.103$; $p = <.05$).

Table 18.

Predictors of CEQ Extrapersonal Behaviors (N = 125)

Variable	Beta	t statistic	p value
Constant		6.282	.000
DLE (Time 1)	-.204	-2.293	.024
MLE	-.137	-1.552	.123
Family Routines	-.085	-.970	.334

Children who experienced fewer daily life events at home had significantly more extrapersonal stressors in child care, controlling for family's major life events and family routines. Major life events, controlling for daily life events and family routines did not predict extrapersonal stressors in child care. Family routines, controlling for major life events and daily life events did not predict extrapersonal stressors in child care.

CHAPTER V- CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS

This study examined whether stressful life events, and daily life hassles in a family influenced stress experienced by preschool-aged children in child- care settings. The study also determined if stressful life events and daily life events were related to family routines. The chapter is organized to include an explanation of the study findings related to the research questions and relevant existing literature, the nursing implications, limitations of the study, and recommendations for future research.

Conclusions

Although further work on the DLE and CEQ is necessary, these measures were helpful in evaluating family stressors at home as reported by parents , and stressful events in child care for pre-school aged children. Parents ratings on the Daily Life Events (DLE) and Major Life Events (MLE) instruments, were not correlated with each other at each time point (Time1 and Time 2). Time 2 MLE items were positively correlated with extrapersonal events observed in child care. On the other hand, DLE at Time 1and Time 2 were positively correlated significantly with the extrapersonal events of the CEQ. While there was no significant relationship between stressful life events and family routines, there was a positive correlation between Daily Life Events and Family Routines at Time 2.

Discussion

A number of research questions were posed in this dissertation. This section will discuss each research question separately.

1. What are the psychometric properties of the Child Care Events Questionnaire (CEQ).

Although correlations on most of the items on the CEQ were found to have sufficient stability across time, there were other items such as "Teacher stress" "Change in drop off/pick up routine" and "Best friend absent" that seemed to have a very low or no correlation. This low correlation may have been because these events were qualitatively different from the other child - directed items. For future research purposes, the total instrument could include all other events with the deletion of these three events. The indices derived from this scale can be used in future studies of a single construct such as stress within the child, or stress due to factors beyond the child's control. The internal consistency coefficient should be calculated within each index specific to different samples.

2. What are the most frequently occurring stressful life events (MLE) as reported by parents of preschool-aged children?

"Change to a new nursery school or preschool," "Beginning nursery school," "Change of a parents occupation requiring his or her increased absence from home" are major life events that were common for families in this study, and supported by previous studies by Beautrais, Fergusson, & Shannon (1982) and Steinhausen (1986). The

instability inherent in a young family with a preschool child may be due to financial and housing changes and these events are common for young families.

Parents reporting of major life events from time 1 to time 2 decreased. Possibly fewer events actually occurred, which is unlikely given the continued life changes for young families, with 20.3% reporting moving to a new home and 13.8% reporting pregnancy. On the other hand, parents may have changed their behaviors and addressed family stress issues differently or their recall about the events was different at time 2 versus time 1.

3. What are the most frequently occurring daily life events (DLE) as reported by parents of preschool-aged children?

The top 5 most frequently rated daily life events were the same at time1and at time 2. This similarity in ratings could have occurred for several reasons. First, it could be that families experienced the same stressors at time 2 and time 1. Second, the events that occurred were appropriate to the developmental stages of preschool children.

4. What is the relationship between stressful life events and daily life events?

Major stressful life events and daily hassles were not strongly correlated. Possibly these two scales measured different constructs of stress; one measures major stressors and the other measures daily hassles. A previous study by Cric and Greenberg (1990) used separate scales to measure stressful life events (Life Experiences Survey) and daily hassles (Parenting Daily Hassles) and also found a weak, non – significant correlation (r = -.02) between the two measures.

5. What is the stability of daily life events and major life events between Time 1 and Time 2.

A significant correlation between time 1 and time 2 suggests that parent's experiences living with preschool – aged children was similar across the year ($r = .470$, $p < .01$). Therefore many parents who experienced hassles in the beginning of the study continued to experience hassles throughout the year, which is different than our findings on major life events. For MLE, there was no stability from time 1 to time 2.

6. What are the most frequently occurring stressors for preschool – aged children as reported by child care teachers? (CEQ)

"Different Teacher," followed by "Performed in front of group" "Change in daily routine" and "short staffing" were events which were the most frequent. These items were not similar conceptually and thus, indicated that different types of events occurred frequently in child care centers.. It is possible that there is a cumulative effect of experiencing frequently occurring different stressors which may be stressful for the child.

7. What is the relationship between children experiencing major life events in the family, and stressful events in the child care settings?

The stress of having experienced major life events at home can affect children's behavior in the child care settings. Yet, the only significant negative correlation found in this study was between the family's MLE and the child care extrapersonal stressors. Therefore, children experiencing fewer major life events at home, experienced frequent extrapersonal stressors in child care. Although other studies don't show similar relationships of stressors in different settings, there are studies of the relationship

between stress and behavior. Studies by Fergusson et al., (1985), Campbell (1990), and Gross, Sambrook, & Fogg (1999) reported statistically significant associations between frequent life events and teacher ratings of child behavior (externalizing behavior).

8. What is the relationship between children experiencing daily life events, and stressful events in the child care settings?

Stress in child care was not associated with daily stressful events at home in this study. One possible explanation for this finding was that the children did not find the daily life events stressful, and therefore they were not at risk of experiencing stressors in child care or that these concepts measure different distinct aspects of stress.

9. What is the relationship between stressful life events, daily life events, and family routines in the child care settings?

Families who experienced frequent daily life events also experienced frequent family routines. These findings are commensurate with other studies on family routines by families by Kliewer & Kung (1998). The authors found that hassles were significantly correlated with both internalizing ($r = .49$; $p < .001$) and externalizing problems ($r = .43$; $p < .001$). This study also showed that higher levels of maternal education, family cohesion and practice of routines decreased the child's risk of behavior problems. However, findings by Boyce and colleagues (1977) found no significant association between life events and family routine scores. It is possible that families in our study needed the family routines to try to decrease the frequent hassles they were experiencing as a positive coping mechanism.

10. Does the relationship between stressful events at home and in child care settings for a child depend upon the family's level of routines?

This question was not analyzed.

11. Does family stress (stressful life events, daily life events) and family routines predict child care stress?

There are no comparable studies on family environments predicting child care stress. In this study, families who experienced few major stressors seemed to choose child care centers where there were frequent staff problems, such as substitutes, and shortage of staff. Possibly, these families were unaware of the structural and staffing problems in the centers before enrolling their child in the centers.

Nursing Implications

This study will help nurses understand the different types of stressors experienced by pre-school aged children attending child care centers. The CEQ findings show, for the first time, that young children experience frequent stressors in child care. Some of these items reflect extrapersonal stressors which the child has no control over. The implications of these findings are that parents need to learn more about child care center staffing issues before they enroll their child. It will also help parents and teachers identify stress in children. Nurses can help parents and teachers develop interventions to reduce stress such as the use of bedtime stories, play, use of humor at home and the classroom, and by fostering a supportive environment. Nurses can take an active role in developing policies related to improving in-service training, communication, support and education for parents. Finally, in collaboration with the government, business groups, parents, early childhood care providers, and educators, nurses can help in improving developmental

outcomes of children in child care by acting as liason or consultants with the above mentioned groups.

Limitations of the Study

Psychometric properties of the daily life events questionnaire was not able to be analyzed because this instrument had items independent of each other. Therefore the internal consistency coefficient could not be ascertained. Similar instruments measuring the same construct are unavailable and thus criterion related validity was difficult to obtain. Multiple ratings of different teachers for the same child were not obtained and thus reliability could not be established for the Child Care Events Questionnaire. The parent ratings of Major Life Events Questionnaire and Daily Life Events Questionnaire did not have test- retest reliability since they were measured over several months. All the predictor variables are parent completed, so it is possible that they may have had recall bias or bias due to differential recall leading to difficulty in establishing validity of findings. All self report measures may include personal bias. It is also difficult to evaluate if the CEQ events that occurred were stressful for the child since the presence or absence of events in the child care was the subjective response of the teachers. It is possible that the events on the questionnaire (Major Life Events) may have occurred more than once, but it was required that parents mark only the occurrence of the event, and not the frequency of the event. The instrument does not differentiate between positive life events and negative life events making it difficult to interpret the total frequency score. Some items on the CEQ could have been subcategories of items or could have meant the same thing. For example, Change in Routine/Change in pick up/Drop off routine could have overlapped.

Recommendations for Future Research

There are a number of recommendations that come from this study. First, while there were few statistically significant findings, the field of home and child care stress is important to continue to explore. As children are spending increasing proportions of their days in child care, recognizing events – both expected in growing families and unexpected as major life events occur – on the part of both parents and teachers will be critical. The identification of stressors and the child's response in behavioral terms will lead to interventions for families and for teachers to maximize the strengths for coping.

Specific future studies of stress on preschool- aged children in child care can include other characteristics not covered in this study such as the geographic location, the ethnic majority of teachers and children in the center, number of children enrolled in the center, and teacher-child ratio. A randomized control study with one group of children getting supportive therapy for dealing with life events that may have occurred and a control group having usual care can demonstrate the value of the different curriculum based child care programs to minimize stress-related behavior problems. Such studies should use follow - up strategies, because collection of data at one point of time may not be sufficient to validate the results.

Future research in this area could focus on increasing our understanding of the variability in children's responses to stressful life events using new and standardized methods to measure both psychological and physiological stress. In the context of Patterson's model on family stress, factors that can influence children's responses to stressful experiences, such as psychological resiliency through self-efficacy or socially supportive relationships with family and friends could be explored.

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APPENDIX A

Child's Name _____
Child's ID# ___ ___ ___ (1-3)
Center# ___ (4)
Data Identifier 0 4 (5,6)
Record# 0 1 (7,8)
Completion# ___ (9)
Today's Date ___ ___ / ___ ___ / ___ ___ (10-15)
Parent completing form: Mother Father Other (16)
(circle one)

UCSF PRESCHOOL HEALTH PROJECT
MAJOR LIFE EVENTS QUESTIONNAIRE

INSTRUCTIONS: This questionnaire contains a list of 36 major events that can happen in the life of a young family. Some of them are good events, and some of them are bad. Please think back over the last _____ **MONTHS** and try to remember if any of the events on this list happened in your family during that time. Please 1)mark with an X whether a particular event happened, and 2) IF IT DID, circle yes or no to indicate whether or not the event upset, bothered, or disturbed your child.

DURING THE PAST _____ *MONTHS*, DID YOUR CHILD EXPERIENCE . . .	**X if happened**	**If it happened, did it upset, bother, or disturb your child? (circle yes or no)**		
1. Beginning nursery school. → I		Yes	No	(17)
2. Increase in number of child's arguments with parents.		Yes	No	
3. Decrease in number of child's arguments with parents.		Yes	No	
4. Change in parents' financial status.		Yes	No	
5. Birth of a brother or sister.		Yes	No	
6. Change of a parent's occupation requiring his or her increased absence from home.		Yes	No	
7. Death of a grandparent.		Yes	No	
8. Outstanding personal achievement by your child.		Yes	No	
9. Serious illness requiring hospitalization of a parent.		Yes	No	
10. Brother or sister leaving home.		Yes	No	
11. Serious illness requiring hospitalization of brother or sister.		Yes	No	
12. Mother beginning to work.		Yes	No	
13. Change to a new nursery school or preschool.		Yes	No	
14. Change in child's acceptance by peers.		Yes	No	
15. Increase in number of arguments between parents.		Yes	No	
16. Decrease in number of arguments between parents.		Yes	No	
17. Serious illness requiring hospitalization of child.		Yes	No	
18. Loss of job by a parent.		Yes	No	
19. Death of a close friend of the child's		Yes	No	
20. Child having a visible congenital deformity.		Yes	No	
21. Addition of another adult to family.		Yes	No	
22. Marital separation of parents.		Yes	No	
23. Discovery of being an adopted child.		Yes	No	
24. Jail sentence of a parent for 30 days or less.		Yes	No	
25. Death of a parent.		Yes	No	
26. Divorce of parents.		Yes	No	
27. Child acquiring a visible deformity.		Yes	No	
28. Death of a brother or sister.		Yes	No	(72)

DURING THE PAST _____ *MONTHS*, DID YOUR CHILD EXPERIENCE . . .	X if happened	If it happened, did it upset, bother, or disturb your child? (circle yes or no)	
29. Marriage of a parent to a step-parent.		Yes	No
30. Jail sentence of a parent for 1 year or more.		Yes	No
31. Mother being pregnant.		Yes	No
32. Significant change in a parent's state of health.		Yes	No
33. Pet died.		Yes	No
34. Moved to a new home.		Yes	No
35. Death of other significant family member or friend.		Yes	No
36. Someone in family was victim of a crime.		Yes	No
37. Increase in number of arguments/disagreements between child and sibling(s).		Yes	No
38. Parent developed an emotional problem, such as depression, that lasted for three (3) weeks or more.		Yes	No
39. Other: _____ _____ _____		Yes	No
40. Other _____ _____ _____		Yes	No

UCSF PRESCHOOL HEALTH PROJECT
DAILY EVENTS QUESTIONNAIRE

Record# __ __ __ (7,8)
Completion# ___ (9)
Today's Date ___ ___ / ___ ___ / ___ ___ (10-15)
Parent completing form: Mother Father Other (16)
(circle one)

INSTRUCTIONS: In everyday life, children need to cope with a variety of events and experiences. We would like to learn about some of the daily challenges that test a child's capacity to adapt. Please think back over the past **FOUR MONTHS** and try to remember if any of the events on this list happened to your child during that time. You may find it helpful to review your calendar for the past four months. For each event; 1) mark with an X if it happened, 2) IF IT DID, indicate how many times it happened in the last four months, and 3) circle yes if the event **EVER** upset, bothered, or disturbed your child: circle no if it did not.

DURING THE PAST FOUR MONTHS, DID YOUR CHILD EXPERIENCE ANY OF THE FOLLOWING EVENTS?	X if happened	How many times in the last 4 months?	If it happened, did it ever upset, bother, or disturb your child?	
1. Changed mealtime schedule or routine (e.g.: changed time of evening meal from 6 to 7 pm, breakfast at child care instead of at home)			Yes No	(17)
2. Attended or had a party (e.g.: family gathering, birthday party)			Yes No	
3. Spent one or more nights away from parents' home(s) (e.g.: friends, grandparents)			Yes No	
4. Spent one or more nights at other parent's home (e.g.: when parents live apart, alternate weekends at father's home)			Yes No	
5. Had overnight visitor for more than two nights (e.g.: grandparents visit for a week, mother's old friend visits)			Yes No	
6. Changed bedtime schedule or routine, not related to illness (e.g.: bedtime changed from 8 to 9 pm, change in person who normally puts child to bed)			Yes No	
7. Had nightmares or bad dreams.			Yes No	
8. Learned a new skill requiring specific instruction (e.g.: swimming, reciting ABC's)			Yes No	
9. Went on a special outing or event with parent(s) (e.g.: going to circus, camping)			Yes No	
10. Parent(s) went away on a trip without child (e.g.: business trip, weekend vacation)			Yes No	
11. Parent had concerns about too many demands on his/her time			Yes No	
12. Other children pressured child to do something he/she did not want to do (e.g.: dared to climb a tree or to draw on a wall)			Yes No	
13. A special friend moved away or is no longer available (e.g.: went to a different preschool)			Yes No	
14. Got lost (e.g.: at a park, in a department store or shopping mall)			Yes No	
15. Had a new babysitter			Yes No	
16. Other (specify) _____ _____ _____			Yes No	(80)

Child's ID# ___ ___ ___ (1-3)
Center# ___ (4)
Data Identifier 0 3 (5,6)
Record# 0 2 (7,8)
Completion# ___ (9)

INSTRUCTIONS: The following is a list of events that occur on a more frequent basis. For each event, 1) mark with an X if it happened in your child's life during the past TWO WEEKS, 2) IF IT DID, indicate how many times it happened in the last two weeks, and 3) Circle yes if the event EVER upset, bothered, or disturbed your child: circle no if it did not.

DURING THE PAST TWO WEEKS, DID YOUR CHILD EXPERIENCE ANY OF THE FOLLOWING EVENTS?	X if happened	How many times in the last 2 weeks?	If it happened, did it ever upset, bother, or disturb your child?	
1. Had disagreements involving getting dressed (e.g.: wanted to wear party dress to school, disputed over dressing)			Yes No	(10)
2. Had toileting problems (e.g.: wet pants, constipation)			Yes No	
3. Had disagreements involving food (e.g.: refused to eat what was served, parent refused to buy candy in checkout line)			Yes No	
4. Had disagreements about mealtime behavior at home or away from home (e.g.: played with food, got up from table)			Yes No	
5. Had disagreements involving bedtime (e.g.: strongly resisted going to bed; wanted something done at bedtime that parent couldn't do)			Yes No	
6. Was disciplined when he/she did something wrong or bad (e.g.: no TV, time out)			Yes No	
7. Attempted a challenging task and failed (e.g.: breaking a bowl while helping to unload the dishwasher)			Yes No	
8. Fought with or was teased by siblings			Yes No	
9. Fought with or was teased by other children			Yes No	
10. Parent could not spend usual amount of time with child (e.g.: parent had a series of evening meetings, parent occupied with extended phone calls)			Yes No	
11. Was cared for by a babysitter or child care program more often or longer than usual			Yes No	
12. Other (specify) _____ _____ _____			Yes No	(57)

APPENDIX-C

UCSF PRESCHOOL HEALTH PROJECT
FAMILY ROUTINES QUESTIONNAIRE

Child's Name _____
Child's ID# ___ ___ ___ (1-3)
Center# ___ (4)
Data Identifier 0 7 (5,6)
Record# 0 1 (7,8)
Today's Date ___ ___ / ___ ___ / ___ ___ (9-14)
Parent completing form: Mother Father Other (15)
(circle one)

All families do certain things regularly from day to day. These are the common routine events that are done over and over again and give a pattern to daily living. We call these **Family Routines**. We would like to learn about some of your family's routines and how important they are to your family.

Instructions: Please answer both the **Frequency** and the **Importance** questions for each statement listed. There are no "right" or "wrong" answers to any of the questions. Please answer the questions by putting a check in the box of your choice. Do not skip any questions about these routines unless they do not apply to your family. Remember that the questions are about your family's *current routines*.

Frequency: How often does this currently happen in your family? Importance: How important is this routine for keeping your family strong?	Frequency				Importance			
	Everyday	3-5 times per week	1-2 times per week	Almost never	Very important	Somewhat important	Not at all important	
1. Parent(s) have certain things they do in the morning while getting ready to start the day.								(16)
2. Whole family eats dinner together.								
3. Children do regular household chores.								
4. Children do the same things in the morning as soon as they wake up.								
5. Children do their homework at the same time of day or night.								
6. Parents(s) have some time during the day for just talking with the children.								
7. Parent(s) and children play together.								
8. Children go to bed at a certain time at night.								
9. Family checks in or out with each other when someone leaves or comes home.								
10. Working parent(s) come(s) home from work at the same time of day.								
11. Non-working parent(s) and children do something together outside the home (for example: shopping, walking, etc.).								
12. Family has certain things they do to greet the working parents at the end of the day.								
13. Children take part in regular activities after school.								
14. Parent(s) read or tell stories to the children.								
15. Working parent(s) has a regular play time with the children after coming home from work.								
16. Children have special things they do or ask for at bedtime. (for example: a story, a good-night kiss, a drink of water).								
17. At least some of the family eats breakfast together.								
18. Family eats at the same time at night.								
19. Family has a "quiet time" in the evening when everyone talks or plays quietly.								
20. Young children go to child care regularly.								(55)

Frequency: How often does this currently happen in your family? **Importance:** How important is this routine for keeping your family strong?	Frequency				Importance			
	Everyday	3-5 times per week	1-2 times per week	Almost never	Very important	Somewhat important	Not at all important	
21. Each child has some time for playing alone.								(56)
22. Working parent(s) take(s) care of the children sometimes.								

Instructions: Please answer both the **Frequency** and the **Importance** questions for each of the additional activities. Please notice that the choices under **Frequency** are different from those on the first page of this questionnaire.

Frequency: How often does this currently happen in your family? **Importance:** How important is this routine for keeping your family strong?	Frequency				Importance			
	Every week	2-3 times a month	Once a month	Less than once/mo.	Very important	Somewhat important	Not at all important	
23. Family has a certain "family time" when they do things together at home.								
24. Family visits with the relatives.								
25. Family goes some place special together.								
26. At least one parent talks to his or her parents.								
27. Parents have a certain hobby or sport they do together.								

Frequency: How often does this currently happen in your family? **Importance:** How important is this routine for keeping your family strong?	Frequency				Importance			
	Always	Most of the time	Some-times	Almost never	Very important	Somewhat important	Not at all important	
28. Parent(s) have certain things they do when the children get out of line.								(71)

APPENDIX – D

Center# _____ (1)

Data Identifier 1 2 (2,3)

Record# 0 1 (4,5)

Today's Date ___/___/___ (6-11)

Teacher ID _____ _____ (12, 13)

UCSF PRESCHOOL HEALTH PROJECT
CHILDCARE EVENTS QUESTIONNAIRE

In all childcare centers, various kinds of events and experiences occur with which children need to cope. We would like to learn about some of the daily challenges that test a child's capacity to adapt.

Instructions: For each child, ***write 1*** if the event occurred todayday. If the child was disturbed, bothered, or upset by the event write ***2 instead of 1***. If the event did not occur, leave the space blank. Refer to the Guidelines for additional examples of each event/experience.

EVENTS/EXPERIENCES involving:

	(14-16)	(14-16)	(14-16)	(14-16)	(14-16)	(14-16)	(14-16)	(14-16)	(14-16)	(14-16)	
1. Different teacher (eg. new or sub)											(17)
2. Short staffing											(18)
3. Teacher stress/bad mood (eg. irritable or depressed)											(19)
4. Change in drop-off or pick-up routine (eg. separating from parent, parent late picking up, usual goodbye routine not done)											(20)
5. Exclusion/rejection by peers (eg. ignored, kept out)											(21)
6. Major conflict with peer(s) (eg. intense or prolonged fighting (verbal or physical) over toys, games, rules)											(22)
7. Performed in front of group (eg. "show & tell")											(23)
8. Disciplined for misbehavior or rule infraction (eg. time out, denied privileges, sent to director)											(24)
9. Forgot to bring item for sharing											(25)
10. Left comforting object at home (eg. special blanket or stuffed animal)											(26)
11. Child's clothing, toy, or project got lost											(27)
12. Problem with hunger or food (eg. food child doesn't like, not enough food available)											(28)
13. Fatigue or nap difficulties (eg. too keyed up, disrupted nap, inadequate sleep previous night)											(29)
14. Problem with toileting (eg. wet pants, toilet training)											(30)
15. Self-dressing difficulties (eg. trouble dressing self, tying shoes)											(31)
16. Fine/gross motor task challenges (eg. play materials or equipment still difficult to use)											(32)
17. Field trip (eg. park, swim lessons, or major outings)											(33)
18. Change in daily schedule/routine (eg. due to special events, inclement weather, new rules)											(34)
19. Problem with transition from one activity to another (eg. waiting in line, clean-up time, outdoor to indoor time)											(35)
20. Activity too frustrating (eg. insufficient play materials, taking turns, group level too easy or difficult)											(36)

OTHER EVENTS/EXPERIENCES: (Examples, such as: visitors; moving to new group; holidays; birthdays; special friend absent; peer ill, injured, or disciplined; parent(s) on trip)

1.											(37)
2.											(38)
3.											(39)