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STRESS AND LIFE EVENTS DURING CHILDHOOD AND ADOLESCENCE

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ABSTRACT. *Research concerned with life events and stress during childhood and adolescence is reviewed. Models of stress and life events and measures of stressful events during childhood and adolescence are described. Although problems in each of these areas are noted, recent progress in measurement is encouraging. Cross-sectional studies have found a consistent, although modest, correlation of stressful events with psychological, behavioral, and somatic problems. However, recent prospective studies provide greater support for the role of chronic strains and daily stressors than major life events in the development of psychological and behavioral difficulties during adolescence. Directions for future research are outlined.*

The path of an individual's life is marked by thousands of events and occurrences which vary in their magnitude, duration, and the meaning they have for the person. Some, such as the death of a family member, are major and involve dramatic levels of change and upheaval. In contrast, many events are minor and may exert relatively little impact on their own (e.g., a child receiving a poor grade on a homework assignment). These events serve as stimuli for human development, both facilitating positive growth and adaptation as well as contributing to illness, disturbance, and regression. The key tasks confronting social scientists in the study of life events have been (a) *description* of events throughout the life span, (b) *explanation* of the mechanisms through which events exert their effects on individuals, and (c) *prediction* of individual differences in the impact of events, particularly distinguishing adaptive and maladaptive outcomes. Theory and research related to these tasks have come from the study of stressful life events (e.g., Dohrenwend & Dohrenwend, 1974; Goldberger & Breznitz, 1982; Lazarus & Folkman, 1984) and life-span developmental psychology (e.g., Baltes & Brim, 1978, 1979, 1980).

A crucial step in understanding the nature and effects of life events entails the

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study of events during childhood and adolescence. Early events may alter the course of subsequent development, either directly or transactionally (cf. Rutter, 1981). As a result, while development continues in a transactional pattern, the impact of early events may be more pervasive than events occurring during adulthood. Coping and adaptational skills are also developing rapidly during these periods, changing the effects which events exert on individual functioning (Compas, in press). As a consequence, childhood and adolescence have been targeted as critical periods for prevention programs designed to enhance coping skills and reduce the negative effects of certain events (e.g., Cowen, 1985; Danish, Smyer, & Nowak, 1980; Felner, Farber, & Primavera, 1983; Segal, 1983).

The focus of this review is on life events and stress during childhood and adolescence. Particular emphasis is given to those events which are considered "stressful," factors which determine the stressfulness of events, and psychological and physical problems associated with stressful events. First, various conceptualizations of life events and stress are discussed as they have been applied to children and adolescents. Second, empirical research in this area is critically reviewed and evaluated, including the measurement of stressful events and the relationship between stressful events and psychological and somatic symptoms. Finally, directions for future research are described.

PRIOR CONCEPTUALIZATIONS OF LIFE EVENTS AND STRESS

Research investigating any construct should begin with a clear, operational definition of the concept. Unfortunately, this has not been the case regarding studies of childhood and adolescent life events and stress. Problems in this area are the result of multiple, conflicting definitions of the concept of stress.

Stress

The nature and impact of events during childhood and adolescence have been the focus of two groups of researchers with quite different interests. One group of social scientists has been concerned with the "stressful" nature of life events; that is, the relationship between the occurrence of events and subsequent psychological and/or physiological disorder (see reviews by Johnson, 1982, in press; Petersen & Spiga, 1982; Rutter, 1981). As Rutter (1981) has pointed out, this work has been characterized by a failure to explicitly define what constitutes "stress" or a "stressful life event." Most investigators simply use these terms without any attempt to clarify their meaning. In spite of this confusion, several common themes or characteristics can be identified in what have been considered stressors. The various sources of stress which have been studied are outlined in Figure 1.

First, this research focuses on stimuli which exert a *demand* on the child or adolescent: that is, a stimulus which requires an adaptational response by the individual. This is reflected in Johnson's (1982) description of stressful life events as "life experiences or events that may result in changes in their lives and that necessitate varying degrees of coping and adaptation" (p. 219). These demands may come from external sources in the form of a variety of environmental stimuli or internal factors related to physiological change and development.

A second theme involves the distinction between *acute* and *chronic* demands. Chronic demands are often characterized as enduring aspects of the social and/or physical environment which involve deprivation or disadvantage and create a continuous stream of threats and challenges for the individual. For example, Rutter

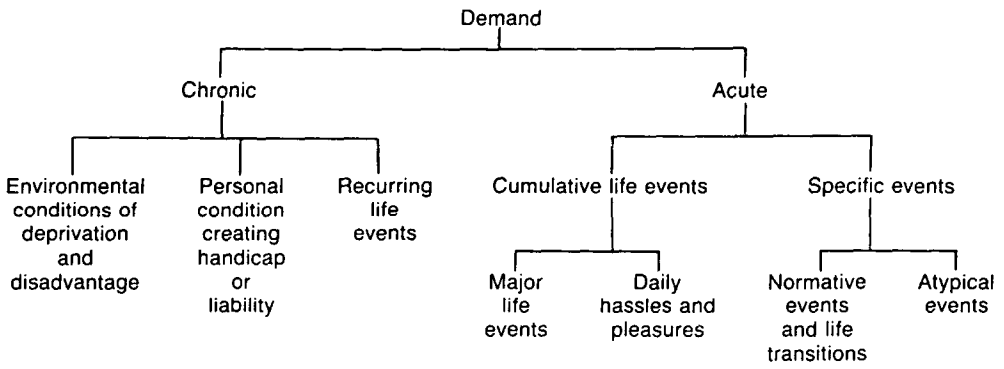

FIGURE 1. Sources of Stress During Childhood and Adolescence

(1981) refers to chronic psychosocial adversity which includes the family and economic environments in which the child functions. Chronic demands may also be the result of personal characteristics of the individual, as in the case of a physical disability or degenerative disease. Finally, chronic demands may occur in the form of recurring events. For example, parental conflict may surface repeatedly in the life of a child or adolescent and require renewed adaptational efforts with each occurrence.

Alternatively, *acute* demands involve changes in existing conditions or a disruption of the status quo and have been the focus of the majority of research concerning child and adolescent stress. Kaplan, Robbins, and Martin (1983) emphasize that such events have a clearly defined beginning against which change can be noted. These acute demands or changes have been further distinguished as involving the cumulative effects of numerous life events over a specified time period or the occurrence of a specific incident which exerts an effect independent of other life events. The cumulative life event approach is exemplified by the assertion of Newcomb, Huba, and Bentler (1981) that stress during adolescence is best assessed through a tally of recent life changes. While such research involving children and adolescents has focused almost exclusively on major life events (i.e., dramatic and severely taxing incidents which occur infrequently), recent research with adult populations has indicated that the minor hassles and pleasures which characterize daily living may exert significant demands as well (DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982; Kanner, Coyne, Schaefer, & Lazarus, 1981; Monroe, 1983). Research focusing on specific stressors has addressed normative events and life transitions encountered by most children and adolescents (e.g., changing schools) and atypical events (e.g., parental divorce). These various types of events are not mutually exclusive. For example, most daily hassles are recurring in nature. They are represented in Figure 1 to provide an overview of the different types of events which have been the focus of stress research.

Events and Life-Span Development

A second perspective on life events in childhood and adolescence has been offered by social scientists concerned with life-span development (e.g., Brim & Ryff, 1980; Danish, Smyer, & Nowak, 1980; Hultsch & Plemons, 1979). These researchers and theorists are primarily interested in studying the broad role which life events

play in development across the life-span. As Brim and Ryff (1980) state: "Life events are as integral to life-span development theory as are atoms and other lesser particles to physical theory" (p. 368). The emphasis of this work is on the "developmental" nature of life events, as opposed to the "disease" orientation of the stress researchers described above (Danish et al., 1980). Life events are not viewed as sources of pathology, but rather as states of disequilibrium which precede and make positive development possible. The developmental emphasis of life-span theory has led to the identification of several characteristics of life events which differ from those discussed in research on stress. First, many biological and social events are *age related*, with a particularly high frequency of such events occurring during childhood and adolescence. These include physical growth, changes in the endocrine system, development in the brain and central nervous system, changes in social roles, and family and school transitions. Such events are an anticipated part of development and may become problematic only when they fail to occur at the expected point in the life-span. Second, life-span developmental theory emphasizes the *social distribution* of events. While most incidents are unique experiences of particular individuals, many others are of such scope and magnitude that they affect an entire culture (e.g., war, economic depression). Cultural events have a wider social distribution, thus providing an individual with a large source of potential social support and numerous reference figures to serve as norms for behavior (Brim & Ryff, 1980). Third, the life-span developmental perspective has highlighted the importance of *historical* or *cohort* effects on events. Specifically, shared cultural events differ dramatically across age groups. For example, the cohort which experienced adolescence during the economic depression of the 1930s has a very different event history than the cohort which experienced adolescence during the relative economic affluence of the 1960s. Cohorts will differ from one another in their shared events, while individuals within a single cohort will differ in their unique or personal events.

Comment

Comparison of the stressful life events and life-span development literatures highlights several important issues. First, it is important to distinguish between the concepts of *stress* and *life events*. Not all life events can be considered stressful, and not all stress is the result of specific events. The intersect of the two concepts results in the domain of stressful life events. Further, not all stressful life events result in dysfunction or disorder. Whether a stressful event is related to positive growth or dysfunction must be the result of other mediating factors, including the meaning an event holds for an individual, his or her resources for coping with the event, and efforts made to cope with the event. Finally, while the life-span development literature is based on a transactional model in which persons and environments reciprocally influence one another, research concerning stressful life events has been based implicitly on a linear model in which events are implicated as causal factors in the etiology of some types of distress. These two perspectives could be better integrated by drawing on a transactional definition of stress, such as that of Lazarus and Folkman (1984). Specifically, they define psychological 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" (Lazarus & Folkman, 1984, p. 19). The implications of this perspective for child and adolescent stress research are outlined in the final section of this paper.

EMPIRICAL STUDIES OF LIFE EVENTS AND STRESS

A substantial body of empirical research on life events and stress during childhood and adolescence has emerged during the past 20 years. Studies concerned with stressful life events will be discussed, distinguishing among those investigations which have focused on measurement of life events, those which have attempted to establish a description of common events, and others looking at the psychological and/or physiological outcomes of events.

Measurement

Methods to assess life events during childhood and adolescence have been closely modeled after procedures developed for adult populations. Following the formats developed by Holmes and Rahe (1967), Sarason, Johnson, and Siegel (1978), and others, six checklists of life events have been developed for younger age groups (Coddington, 1972a, 1972b; Compas, Davis, Forsythe, & Wagner, 1986; Johnson & McCutcheon, 1980; Newcomb, Huba, & Bentler, 1981; Swearingen & Cohen, 1985a; Yeaworth, York, Hussey, Ingle, & Goodwin, 1980). The Coddington (1972a, 1972b) scale is designed for use with children and adolescents while the remainder of the measures are intended only for adolescents.

An adequate measure of life events must meet at least the following four criteria (cf. Monroe, 1982a): (a) the domain of potentially relevant events for the population under study must be adequately sampled and represented, (b) some form of subjective appraisal should be obtained to account for individual differences in the perception of events, (c) the scale must be adequately reliable, and (d) concurrent and predictive validity must be established. The failure of most of the existing childhood and adolescence life events measures to meet these criteria has been highlighted in Table 1. First, five of the six measures have not attempted to elicit an extensive sample of events from children or adolescents. Four of the measures employ lists of events generated by adults, primarily researchers and mental health professionals (Coddington, 1972a; Newcomb et al., 1981; Swearingen & Cohen, 1985a; Yeaworth et al., 1980), while a fifth (Johnson & McCutcheon, 1980) includes a few additional items generated by a small sample of adolescents. Adult professionals and researchers may not accurately reflect the experiences of children and adolescents, as they are hindered by differences in age, the limits of existing knowledge in the field, theoretical biases, and the differences in perspective between individuals reporting on their own behavior and judgments made by external observers (cf. Jones & Nisbett, 1971). In addition, the interest of physicians, mental health professionals, and researchers in identifying items which are potentially related to disorder has resulted in measures which are likely to be of limited utility in the study of normative developmental processes and adaptive, as opposed to maladaptive, outcomes (cf. Felner et al., 1983).

The pool of events in these measures is further limited by the focus on so-called major life events and the omission of daily events on five of the scales. As indicated above, research with adults has shown that the relationship of daily events with physical and psychological dysfunction is equal to or greater than that of major life events (DeLongis et al., 1982; Kanner et al., 1981; Monroe, 1983). While the measurement of daily stressors presents a number of problems (see Dohrenwend, Dohrenwend, Dodson, & Shrout, 1984; Dohrenwend & Shrout, 1985; Lazarus, DeLongis, Folkman, & Gruen, 1985, for a discussion of adult measures of daily

TABLE 1. Characteristics of Life Event Scales for Children and Adolescents

Property	Scale					
	Coddington	Compas, Davis, Forsythe, & Wagner	Johnson & McCutcheon	Newcomb, Huba, & Bentler	Swearingen & Cohen	Yeaworth et al.
1. Is it suited for children and/or adolescents?	Separate scales for children and adolescents (4–18 yrs.)	Adolescents (12–20 yrs.)	Adolescents (13–18 yrs.)	Adolescents (13–18 yrs.)	Younger adolescents (12–14 yrs.)	Adolescents (13–18 yrs.)
2. Does it assess major life events?	Yes	Yes	Yes	Yes	Yes	Yes
3. Does it assess daily events?	No	Yes	No	No	No	No
4. Were the events derived from reports of children and/or adolescents?	No	Yes	A small portion of of the events	No	No	No
5. Are subjective appraisals of the events obtained?	No	Yes: vary with age of subjects	Yes: desirability and impact	Yes: desirability and impact	Yes: desirability and impact	No
6. Is it reliable:						
test-retest?	No data	Yes, .89	Yes, .66 to .72	No data	No data	No data
internal consistency?	No data	No data	No data	Coefficients range from .36 to .58	No data	No data
7. Is it valid?	Significant correlations with emotional adjustment, physical health, and personality variables range from .16 to .40	Corroboration with reports of close friends (.82); significant correlations with emotional adjustment range from .27 to .60	Significant correlations with emotional adjustment, physical health, and personality variables range from .21 to .36.	Significant correlations with emotional adjustment, physical health, and personality variables range from .07 to .30	Significant correlations with emotional adjustment and school absenteeism range from .14 to .34.	No data

hassles), such events must be included in a measure of child and adolescent life events if it is to be considered comprehensive.

With regard to the assessment of cognitive appraisals of events, four of the six measures obtain respondents' judgments of the desirability (positive vs. negative) and degree of impact of each event (see Table 2). The controversy over the importance of obtaining consensual ratings, individual ratings, or no ratings at all continues in the adult literature (e.g., see recent reviews by Zimmerman, 1983a, 1983b). However, it appears that measurement of cognitive appraisals of events made by children and adolescents remains a potentially productive avenue for understanding some of the individual differences in responses to events. The results of several studies showing that events appraised as negative are more highly correlated with dysfunction than events appraised as neutral or positive support this point (e.g., Compas, Slavin, Wagner, & Vannatta, in press; Gad & Johnson, 1980). Further work is needed, however, to determine *which* aspects of life events are appraised by children and adolescents. While impact and desirability appear to be important, other appraisals (e.g., frequency of occurrence, attributions of cause) may also be meaningful.

Finally, as reflected in Table 1, the psychometric properties of the existing measures are generally inadequate or unknown. While the test-retest reliability of life event measures is somewhat difficult to assess (see Zimmerman, 1983a), the absence of such data on four of the child and adolescent measures is problematic. The tendency for events to be forgotten over even short periods of time makes this all the more important to determine (cf. Monroe, 1982b). Internal consistency reliabilities are available on only one measure, but may not be appropriate for these types of scales. It cannot be assumed that all events relevant to a particular domain of a youngster's life (e.g., family or school) are likely to occur contemporaneously. For example, the events "parent getting a new job" and "change in parents' financial status" are likely to occur together, while "increase in number of arguments with parents" and "parent getting a new job" will not necessarily co-occur. Thus, internal consistency reliability will be less important to determine than test-retest reliability. Evaluation of the validity of life events scales presents problems as well. While correlations with measures of psychological and physical dysfunction have been obtained for five of the measures, these may be inappropriate for the assessment of the validity of life events scales. That is, the correlation between life events and dysfunction has been used simultaneously to determine the validity of the life events scale (based on the assumption that stressful events induce disorder) *and* test the hypothesis that life events are associated with dysfunction. This approach constitutes a tautology. Perhaps as a result of the failure to delineate clearly what is encompassed by the term "stress," researchers have failed to identify concurrent indicators of stress which could establish its existence *independent of* the relationship to outcomes *produced* by stress. An alternative approach entails the validation of the occurrence of life events through reports by other individuals (e.g., parents, siblings, peers) who have had the opportunity to observe the lives of the subjects (e.g., Slater & Depue, 1981). While problems are inherent in this approach (e.g., no single observer has been exposed to all or even most of the events which have occurred in a given time period of a particular subject's life), it does represent an improvement over existing validation procedures and has produced some encouraging results in studies involving adults (see Zimmerman, 1983a, for a review of adult data).

Recent work on the development of the Adolescent Perceived Events Scale (Com-

pas, Davis, Forsythe, & Wagner, 1986) represents some improvement in the assessment of life events during adolescence. Open-ended lists of daily and major life events were obtained from a sample of over 600 adolescents from 12 to 20 years old (Compas, Davis, & Forsythe, 1985). This yielded a list of 213 non-redundant major life events and daily stressors with three slightly different sets of items representing events of early, middle, and late adolescence. This indicates that existing measures have substantially under-represented the domain of life events in this age group. Multidimensional scaling analysis (MDS) was used to empirically derive a set of cognitive appraisal scales to be used in the measure (Davis, Compas, & Slavin, 1984). The use of MDS to identify the dimensions on which adolescents appraise life events represents an improvement over the typical approach of choosing scales on a strictly theoretical basis. Test-retest reliability in an older adolescent sample over a 2-week period is high, with 89% correspondence in reports of the occurrence and nonoccurrence of events during the same 3 month period obtained 2 weeks apart (Compas, Davis, Forsythe, & Wagner, 1986). Concurrent validity of the occurrence of events and appraisal of events as positive or negative has been determined by comparing reports of older adolescents with reports completed by a close friend on events in the past 3 months of the subjects' lives. Concordance rates are high, with subjects' and friends' reports corresponding on 82% of events which subjects had or had not experienced in the prior three months (Compas, Davis, Forsythe, & Wagner, 1986). Strong relationships between negative events and psychological symptoms and behavior problems have also been found. For example, cross-sectional correlations between weighted negative events and total symptomatology on the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Ulenhuth, & Covi, 1974) in older adolescents were .32, .23, and .26 for major events and .61, .68, and .54 for daily stressors (Wagner, Compas, & Howell, 1986). Negative events were also found to be significantly related to behavior problems in a sample of young adolescents (Compas & Phares, 1986).

In summary, research concerning child and adolescent stress has been hindered by measures of unknown psychometric properties which focus exclusively on major life events. Recent work aimed at developing reliable and valid scales and increased concern with daily stressors has improved the status of adolescent stress measurement. Similar advancement in the assessment of childhood stressors is needed (see Kanner, Harrison, & Wertlieb, 1985, for progress in this area). As child and adolescent measures are developed and refined, particular attention needs to be given to items which may overlap with measures of symptomatology, resulting in confounded measures (e.g., Dohrenwend et al., 1984).

Descriptive Studies

Life-span developmental theorists have been proponents of the need to establish a data base of events that characterize various phases of the life-span (e.g., Brim & Ryff, 1980). Events which are likely to be experienced by a majority of an age group and are thus expected to occur could then be distinguished from those which are encountered only by a small number of individuals at a particular point in development and are more likely to be unanticipated. The probability of occurrence at a particular age, the base rate of occurrence within the population, and the degree to which an event is anticipated all may influence how an event is experienced and how it impacts on the individual.

In spite of the potential importance of generating a data base of typical and atypical events, few such efforts have been conducted with children and adolescents. The only large-scale surveys have been those carried out by Coddington (1972b), Newcomb et al. (1981), and Compas et al. (1985) in the course of the development of their measures. Coddington (1972) obtained data on the occurrence of major life events during the past year from 3,617 children and adolescents. The sample was drawn from an urban area in Ohio and ranged in age from preschoolers to senior high school students (chronological ages were not reported). The sample contained some diversity in ethnic background (22% black, 78% Anglo) and social class. In examining total frequency of events and life change unit scores, no differences were found as a function of gender, ethnicity, or social class. Both total number of events and life change unit scores increased significantly with age. Coddington (1972b) highlights two major increases in life changes, first at age 6–7 when children enter school, and again at age 12–14 with the onset of puberty. However, no quantitative analyses of these trends are reported.

Newcomb et al. (1981) obtained data from 1,018 adolescents in the Los Angeles area. The sample was more limited in age than in the Coddington (1972b) study, as it included only 10th, 11th, and 12th grade students. It was more ethnically diverse, with 15% Hispanic, 19% black, 7% Asian, and 60% Caucasian. Rather than analyzing the frequency of total life events and life change units, Newcomb et al. (1981) present the percentages of adolescents who reported the occurrence of specific events during the previous year of their lives. They present base rates of occurrence for each of the 39 events in their measure, ranging from very rare events (e.g., only 1% of the sample "got or gave venereal disease" or "had a gay experience") to those occurring in over half of the sample (e.g., 64% reported having "met a teacher I like a lot" and 60% "started making own money"). No event was experienced by more than two-thirds of the sample during the previous year. Chi-square analyses revealed significant differences in the frequency of occurrence of events as a function of gender, age, and ethnic background. When these differences were analyzed by subscales of items it was found that males reported more events related to "Deviance" while females reported more "Accident/Illness" and "Distress" events, younger subjects reported more "Deviance" events while older adolescents listed more events related to "Autonomy", and ethnic differences were found in the areas of "Sexuality," "Autonomy," and "Deviance."

Using a different methodology, Compas et al. (1985) obtained open-ended reports of major life events and daily hassles occurring in the prior 6 months of the lives of 658 adolescents. The sample ranged in age from 12 to 20 years old and was almost exclusively Caucasian. Differences were found in events as functions of age, gender, and type (major vs. daily) of event. Daily events were reported as negative more frequently than were major events. Females reported more negative than positive daily events, while males displayed the opposite pattern. This gender difference held for ages 12 to 17 but not for the older adolescent sample (age 18 to 20).

Association of Multiple Life Events with Psychological and Physical Symptoms

Investigators interested in stressful life events during childhood and adolescence have concentrated on examining the relationship between multiple life events and psychological and/or physical dysfunction. These studies constitute the majority of empirical work in this area. The samples included in these studies have been

children and adolescents between the ages of 1 and 20 years of age. The majority of the studies (22 of 32) have focused on adolescents. The diversity of most of the samples is adequate, including distribution across ethnic background and social status.

Cross-Sectional Studies. The research design most often employed in studies of life events and symptomatology relies on retrospective reports of life events and symptomatology collected at a single point in time. The primary function of this type of cross-sectional research is to identify significant relationships between the variables in question which are worthy of more intensive investigation in prospective longitudinal studies. Similar to research concerning stressful life events in adulthood, most of the studies (26 of 32) of children and adolescents have been cross-sectional (see Table 2).

In spite of considerable variability in measures used in the various studies, the findings have been quite consistent. A significant relationship between life events and disorder is reported in every study. Specifically, the frequency of negative life events and/or total life events is positively related to levels of psychological and physical dysfunction. When the association of symptoms or behavior problems with total life events, as opposed to negative events, is compared, the correlations are typically higher with negative events. Thus, similar to adult studies, it appears that negative events, rather than life change per se, are more strongly related to distress. Those studies using correlational designs have yielded Pearson correlation coefficients in the range of .10 to .68, with the majority between .20 to .30. Negative events have been found to be related to a wide range of problems, including the following symptoms: depression and anxiety (Barrera, 1981; Compas & Phares, 1986; Compas et al., in press; Friedrich, Reams, & Jacobs, 1982; Greenberger, Steinberg, & Vaux, 1982; Johnson & McCutcheon, 1980; Lawrence & Russ, 1985; Mullins, Siegel, & Hodges, 1985; Newcomb et al., 1981; Siddique & D'Arcy, 1984; Swearingen & Cohen, 1985b; Thomson & Vaux, 1986), delinquent behavior (Gad & Johnson, 1980; Greenberger et al., 1982; Vaux & Ruggiero, 1983), suicide attempts (Cohen-Sandler, Berman, & King, 1982), somatic health (Bedell, Diordani, Amour, Tavormina, & Boll, 1977; Boyce, Jensen, Cassell, Collier, Smith, & Raimey, 1977; Compas et al., in press; Green, Walker, Hickson, & Thompson, 1985; Heisel, Ream, Raitz, Rappaport, & Coddington, 1973; Hodges, Kline, Barbero, & Flanery, 1984; Johnson & McCutcheon, 1980; Newcomb et al., 1981), and acting-out behavior (Compas & Phares, 1986; Sandler, 1980; Sandler & Block, 1979; Sterling, Cowen, Weissberg, Lotyczewski, & Boike, 1985). Factors associated with the development of one type of problem as opposed to another in response to stress have not been delineated as yet.

Several factors have been found to moderate the association between stressful events and psychological and/or behavioral problems in these studies, including the gender of the individual and the type of event. With regard to gender differences, girls tend to rate events as more stressful than boys (Lawrence & Russ, 1985; Lewis, Siegel, & Lewis, 1984), girls report more major negative events (Burke & Weir, 1978; Compas et al., in press; Lewis et al., 1984) and daily hassles (Compas, Davis, & Forsythe, 1985), five studies report a higher correlation between negative life events and psychological symptoms for girls than for boys (Compas & Phares, 1986; Greenberger et al., 1982; Johnson & McCutcheon, 1980; Lawrence & Russ, 1985; Siddique & D'Arcy, 1984), one study found a stronger event-psychological symptom association for males than females (Compas et al., in press), and one study

TABLE 2. Retrospective Studies of Stressful Life Events and Psychological, Behavioral, and Somatic Problems During Childhood and Adolescence

Study	Sample	Research Design	Life Events Measure	Moderator Variables	Dependent Variables	Results
Barrera (1981)	•Female adolescents (n = 86) •Mean age = 17.2 •Included Anglo, black, and Hispanic subjects •All pregnant	•Retrospective •Single data collection	•Coddington, modified with 15 items deleted and 8 others added	•Social support, measured via interview and questionnaire	•Brief symptom inventory (standardized)	•Negative life events related to total symptom level (r = .40), depression (r = .39), and anxiety (r = .20) •Significant interaction of negative life events and satisfaction with social support
Boyce et al. (1976)	•Children (n = 58) •Mean age = 4.3 •Black and Anglo subjects	•Retrospective •Single data collection	•Coddington	•Family routine	•Diagnosis and evaluation of respiratory illness	•Weighted life change units related to average severity (r = .18) and average duration of illness (r = .40) •Strict family routine augmented life change-illness relationship
Burke & Weir (1978)	•Adolescents (n = 274) •Mean age = 16.3	•Retrospective •Single data collection	•Idiosyncratic (26 items)	•Social support, idiosyncratic measure	•Idiosyncratic measures of emotional and physical well-being	•Relationship between life events and outcome not reported •Females reported more stress events, social support, and dysfunction

(*continued*)

TABLE 2. Continued

Study	Sample	Research Design	Life Events Measure	Moderator Variables	Dependent Variables	Results
Coddington (1979)	•Pregnant (n = 121) and non-pregnant (n = 261) female adolescents •Mean age 16.8 for pregnant and 15.6 for non-pregnant	•Retrospective •Single data collection	•Coddington	•None	•Pregnant vs. non-pregnant	•Pregnant group reported more negative life events, particularly deaths of family members
Cohen-Sandler et al. (1982)	•Children (n = 76) •Age range = 5 to 14	•Retrospective •Single data collection	•Coddington	•None	•Psychiatric diagnosis (suicidal; depressed, nonsuicidal; psychiatric control)	•Suicidal children experienced more negative life events during later childhood and early adolescence
Compas & Phares (1986)	•Adolescents (n = 175) •Age range = 10 to 14	•Retrospective •Single data collection •Part of longitudinal study	•Compas, Davis, Forsythe, & Wagner	•Parents' stress and symptomatology	•Standardized measures of behavior problems	•Negative events related to self-reported behavior problems (r = .42) and maternal reports of problems (r = .19) •Stronger event-behavior problem correlation for females than males
Compas, Slavin, Wagner, & Vannatta (in press)	•Adolescents (n = 246) •Mean age = 17.9	•Retrospective •Single data collection •Part of longitudinal study	•Newcomb et al.	•Standardized measure of social support	•Standardized measure of psychological symptoms	•Negative events (r = .27) and satisfaction with social support (r = −.30) related to total symptom level •Specific sub-scales

						of events more highly related to symptoms than others ·Stronger event-symptom correlation for males than for females
Friedrich et al. (1982)	·Adolescents (n = 132) ·Mean age = 14.4	·Retrospective ·Single data collection	·Coddington	·Social support, idiosyncratic measure ·Family environment, standardized measure ·Sensation seeking, standardized measure	·Standardized measure of depression	·Depression associated with greater life stress, less social support, and less family cohesion
Gad & Johnson (1980)	·Adolescents (n = 167) ·Age range = 12–14 ·Black and Anglo subjects	·Retrospective ·Single data collection	·Johnson & McCutcheon	·Social support, idiosyncratic measure	·Idiosyncratic measures of health status, personal adjustment, and drug use	·Negative events related to seven measures including current personal problems (r = .36), current physical problems (r = .32), and drug use (r = .30) ·Social support did not mediate events-outcome relationship
Greenberger et al. (1982)	·Adolescents (n = 531) ·10th & 11th graders (no age data) ·Black, Anglo, Hispanic, and Asian subjects	·Retrospective ·Single data collection	·Coddington, modified with 22 items deleted	·None	·Standardized measure of psychological symptoms ·Idiosyncratic measures of somatic symptoms, school absences, and substance use	·Frequency of life events a significant predictor of all dependent measures in regression equation ·Stronger life events outcome association for females than for males

(*continued*)

TABLE 2. Continued

Study	Sample	Research Design	Life Events Measure	Moderator Variables	Dependent Variables	Results
Greene et al. (1985)	•Adolescents at outpatient medical clinic (n = 172) •Age range = 11 to 19	•Retrospective •Single data collection	•Johnson & McCutcheon, with 9 items omitted	•None	•Type of primary medical diagnosis	•Recurrent abdominal and chest pain, and behavior problem groups report more stressful events
Hodges et al. (1984)	•Children & adolescents (n = 139) •Age range = 10 to 19	•Retrospective •Single data collection	•Coddington	•None	•Recurrent abdominal pain	•Recurrent abdominal pain and behavior problems associated with more stressful events than normal
Hotaling et al. (1978)	•Adolescents (n = 118) •College freshmen (no age data)	•Retrospective •Single data collection	•Coddington	•Social support, idiosyncratic measure	•Idiosyncratic measures of health and psychological functioning	•Total life events related to seriousness of illness (r = .22) and psychological malaise (r = .24) •Negative events related to seriousness of illness (r = .16) •Modest interaction with social support
Jacobs & Charles (1980)	•Children and Adolescents (n = 25) •Mean age = 9.5 •All with diagnosed cancer	•Retrospective •Single data collection	•Holmes & Rahe given to parents and interviews	•None	•Presence of diagnosed cancer	Significantly greater life change units in cancer patients compared with controls
Johnson & McCutcheon (1980)	•Adolescents (n = 97) •Age range = 13–17	•Retrospective •Single data collection	•Johnson & McCutcheon	•None	•Standardized measures of depression, anxiety, emotional	•Negative events related to depression (r = .22), anxiety

					maladjustment, locus of control, and social desirability	(r = .33), general maladjustment (r = .24), and locus of control (r = .21) •Gender effects, with stronger relationship on physical health for males and emotional adjustment for females
Kaplan et al. (1983)	•Adolescents (n = 1633) •Black, Anglo, and Hispanic subjects	•Retrospective •Part of longitudinal study, followed up 10 years after initial data collected	•Idiosyncratic (22 items)	•Social support, idiosyncratic measure	•Idiosyncratic measure of psychological distress	•Negative events related to psychological distress (r = .22)
Lawrence & Russ (1985)	•Adolescents (n = 66) •Age range = 11 to 14	•Retrospective •Single data collection	•Coddington	•Standardized measure of social support •Standardized measure of perceived competence	•Standardized measure of psychological symptoms	•Stronger relationship between negative life events and symptoms for females (r = .65) than males (r = .14). •Significant support × stress interaction •Significant perceived competence × stress interaction
Mullins et al. (1985)	•Children (n = 134) •Mean age = 10.3	•Retrospective •Single data collection	•Coddington	•Standardized measures of locus of control and problem-solving	•Standardized measure of depression	•Depression associated with negative life events and external locus of control •Interactions were not tested
Newcomb et al. (1981)	•Adolescents (n = 1018)	•Retrospective •Single data collec-	•Newcomb et al.	•None	•Idiosyncratic measure of health and	•Negative events related to six measures

(*continued*)

TABLE 2. Continued

Study	Sample	Research Design	Life Events Measure	Moderator Variables	Dependent Variables	Results
	•10th–12th graders (no age data) •Black, Anglo, Hispanic, and Asian subjects	tion •Part of longitudinal study			psychological functioning	including depression (r = .20) and thought disorganization (r = .17) •Numerous significant r's between subscales of life events measure and various outcomes
Sandler (1980)	•Children (n = 71) •Kindergarten through third grade (no age data) •Primarily black and Hispanic subjects	•Retrospective •Single data collection	•Coddington, modified with 17 items deleted and 7 others added, completed by parents	•Social support, idiosyncratic measure	•Standardized measure of behavior problems completed by parents	•Significant correlations of total and negative life events scores and behavior problems •Strong moderator effects of social support (presence of older siblings, presence of both parents).
Sandler & Block (1979)	•Children (n = 143) •Kindergarten through third grade (no age data) •Primarily black and Hispanic subjects	•Retrospective •Single data collection	•Coddington, modified with 17 items deleted and 7 others added, completed by parents	•Welfare status of parents	•Standardized measures of behavior problems completed by teachers and parents	•Numerous significant correlations of total and negative life event scores and specific behavior problems ranging from .24 to .68 •Moderating effect for welfare status of parents

Siddique & D'Arcy (1984)	•Adolescents (n = 1038) •Age range = 14 to 17	•Retrospective •Single data collection	•Idiosyncratic (45 items)	•Standardized measure of locus of control	•Standardized measure of psychological symptoms	•Life stress associated with greater symptoms •Locus of control interaction with school and peer stress •Greater vulnerability for females
Sterling et al. (1985)	•Children (n = 422) •1st–4th graders (no age data)	•Retrospective •Single data collection	•Coddington, modified to include only 11 uncontrollable negative events	•None	•Standardized measures of problem behaviors and school related competencies	•Multiple negative life events associated with more behavior problems and lower competence
Swearingen & Cohen (1985a)	•Adolescents (n = 233) •Mean age = 12.6 •Black and Anglo subjects	•Retrospective •Single data collection	•Swearingen & Cohen	•None	•Standardized measures of anxiety and depression; number of school days missed	•Negative events most strongly related to depression (r = .34) and trait anxiety (r = .29)
Thomson & Vaux (1986)	•Adolescents (n = 113) •Age range = 12 to 18 (mean = 15.3)	•Retrospective •Single data collection	•Coddington, modified (21 items total) •Idiosyncratic measure of daily stressors	•Family environment •Parents' stressors	•Standardized measures of depressed mood and positive and negative affect	•Major life events related to depression (r = .52) and affect (r = .35); daily stressors related to depression (r = .50) and mood (r = .42)
Vaux & Ruggiero (1983)	•Adolescents (n = 531) •10th and 11th graders (no age data) •Black, Anglo, Hispanic, & Asian subjects	•Retrospective •Single data collection	•Coddington, modified with 22 items deleted	•Age and social status	•Idiosyncratic measure of delinquent behavior	•Frequency of life events a significant predictor of five delinquent behaviors in regression equation

found a higher correlation of events with physical problems for males than for females (Johnson & McCutcheon, 1980). Analyses of different types of stressful events during adolescence indicate that some domains (family, deviance, and distress events) may be more closely related with symptoms than other types of events (e.g., autonomy, sexuality) (Compas et al., in press; Newcomb et al., 1981; Siddique & D'Arcy, 1984).

The majority of the studies summarized in Table 2 have been limited by four major problems. First, most of the studies have used measures whose psychometric properties are either inadequate or unknown. This limitation of life events measures has been described above. The majority of instruments used to assess psychological dysfunction and factors mediating the events-disorder relationship also have been non-standardized measures with unknown psychometric properties developed for use in a specific study. Second, the assessment of disorder has been limited by an over-reliance on self-report measures. The use of sound measures of observers' ratings of child and adolescent behavior is a necessity in future research. For example, Compas and Phares (1986) found a stronger association of negative events with young adolescents' self-reports of behavior problems than with maternal reports of problems, suggesting that the source of data may affect the relationship which is found. Third, outcome has been operationalized and measured primarily in terms of dysfunction and maladjustment. As indicated above, life events may also precipitate positive development and adaptation. Measures of competence and "positive mental health" must be included in future studies to provide a more complete picture of the impact of life events. Finally, there are methodological problems inherent in cross-sectional retrospective designs in which reports of life events and dysfunction during a prior time period (e.g., the previous 6 months) are obtained at a single point in time. The limitations of this design have been highlighted in discussions pertaining to adult life event studies (e.g., Monroe, 1982c; Monroe, Imhoff, Wise, & Harris, 1983). Problems with the design include possible distortion and poor recollection of prior events, confounding of life event and dysfunction when measured concurrently, and failure to control for level of dysfunction prior to the occurrence of life events.

Prospective Studies. While cross-sectional studies have been useful in establishing a link between life events and distress in children and adolescents, only prospective studies can be used to discern the role of stressful events in the etiology of psychological or somatic disturbance. Only six studies (Burt, Cohen, & Bjorck, 1986; Compas, Wagner, Slavin, & Vannatta, 1986; Gersten, Langner, Eisenberg, & Simcha-Fagan, 1977; Padilla, Rohsenow, & Bergman, 1976; Swearingen & Cohen, 1985b; Wagner, Compas, & Howell, 1986) have used prospective designs in which life events are measured prior to the assessment of the "dependent" variables (see Table 3). Other investigations are reported as portions of larger longitudinal studies (Compas & Phares, 1986; Kaplan, Robbins, & Martin, 1983; Newcomb et al., 1981), but only present data based on retrospective reports of life events collected at the same point in time as the measures of symptoms. Evaluation of available prospective data indicates that major life events are *not linearly* related to development of psychological symptoms during adolescence. Gersten et al. (1977), Swearingen and Cohen (1985b), and Wagner, Compas, and Howell (1986) all failed to find a significant relationship between major life events and symptomatology in prospective analyses in which prior symptoms are controlled for. Only Burt, Cohen,

and Bjorck (1986) and Compas, Wagner, Slavin, and Vanatta (1986) report a significant association between major life events and distress in prospective analyses. However, Compas et al. (1986) indicate that, because of substantial subject attrition over the course of a longitudinal study, their findings are representative only of a subgroup of adolescents who are highly vulnerable to the effects of life events. Further, Burt, Cohen, and Bjorck (1986); Swearingen and Cohen (1985b), Wagner, Compas, and Howell (1986), and Compas, Wagner, Slavin, and Vanatta (1986) all report significant relationships between symptom levels and *subsequent* negative life events. That is, symptoms are better predictors of subsequent stressful events than events are of subsequent symptomatology.

It appears that chronic stressors, including daily hassles and characteristics of the psychosocial environment, hold greater promise than major life events in understanding the development of psychological distress during adolescence. Gersten et al. (1977) found that "stressful characteristics of the psychosocial environment" (e.g., socioeconomic status, quarrels between parents, mother's physical or emotional illness) accounted for a significant portion of symptomatology displayed by adolescents. Wagner, Compas, and Howell (1986) found that, after controlling for prior symptoms, daily stressors (e.g., school work, arguments with parents) mediated the relationship between major life events and symptoms. That is, major events were predictive of daily events and daily events predicted symptoms but there was not a direct relationship between major events and symptoms.

Outcome Studies: Single Life Events. Numerous studies have examined the relationship between life events and dysfunction using a different research methodology. Children and adolescents who have experienced a common "traumatic" event are compared with matched comparison samples of youngsters who have not been exposed to the event. The events which have been studied most extensively are parental divorce (e.g., Atkeson, Forehand, & Rickard, 1982; Heatherington, 1980; Heatherington, Cox, & Cox, 1979; Wallerstein, 1983; Wallerstein & Kelly, 1980), entering a new school (e.g., Cauce, Felner, & Primavera, 1982; Felner, Ginter, & Primavera, 1982; Felner, Primavera, & Cauce, 1981), and birth of a sibling (e.g., Dunn & Kendrick, 1980; Dunn, Kendrick, & MacNamee, 1981). The literatures concerning each of these events are too large to allow for in-depth discussion (readers are referred to the reviews and studies listed above). However, some comparison with research on multiple life events is necessary.

Similar to the effects of multiple life events, studies examining specific stressors indicate that these events have a moderate and, perhaps, indirect relationship with maladaptive functioning. For example, while it has been shown that divorce relates to a range of childhood and adolescent problems from aggressive behavior to fear and depression, it is clear that not all children or adolescents respond adversely to this event (Felner, Farber, & Primavera, 1980). The degree of variability in youngsters' responses to divorce led Felner et al. (1980) to conclude that examining aggregate level differences between children or adolescents whose parents are divorced and controls is not a productive avenue for research. Rather, person and environment variables which may mediate the impact of divorce need to be studied more closely to account for individual differences in outcome.

Several authors have challenged the notion that divorce, entering a new school, or similar experiences actually constitute discrete events (e.g., Felner, Farber, & Primavera, 1980, 1983; Wallerstein, 1983). They have presented an alternative

TABLE 3. Prospective Studies of Stressful Life Events and Psychological, Behavioral, and Somatic Problems During Childhood and Adolescence

Study	Sample	Research Design	Life Events Measure	Moderator Variables	Dependent Variables	Results
Burt, Cohen & Bjorck (1986)	•Adolescents (n = 312) •Mean age = 12.7	•Prospective •Two data collections 5 months apart	•Swearingen & Cohen	•Parents' stress •Positive life events	•Standardized measures of anxiety, depression, and self-esteem	•Cross-sectional and longitudinal analyses support negative event-symptom relationship •Buffering effect for positive events •Weak support for role of parents' negtive events
Compas, Wagner, Slavin, & Vannatta (1985)	•Adolescents (n = 64) •Mean Age = 18.4	•Prospective •Three data collections over 6 months	•Newcomb et al.	•Standardized measure of social support	•Standardized measure of psychological symptoms	•Negative events and satisfaction with support both reciprocally related with total symptom level •Prospective relationships change over time
Gersten et al. (1977)	•Children and adolescents (n = 732) •Age range = 11 to 23 at follow-up	•Prospective •Two data collections 5 years apart	•Idiosyncratic measure (26 events)	•Characteristics of psychosocial environment	•Idiosyncratic measure of child behavior problems	•Life events did not predict behavior problems after stressful characteristics of psychosocial environment were controlled for

						•Chronic stressors more important for symptomatology than life change
Padilla et al. (1976)	•Male adolescents (n = 103) •7th graders (no age data)	•Prospective •DV measured weekly over 5 months	•Coddington	•Idiosyncratic measure of risk-taking behavior	•Idiosyncratic measure of accident frequency	•Significantly more accidents for subjects with high than low life change units •No effect for risk-taking
Swearingen & Cohen (1985b)	•Adolescents (n = 79) •Mean age = 13	•Prospective •Two data collections 5 months apart	•Swearingen & Cohen	•Positive life events as buffers of negative life events	•Standardized measures of depression and anxiety	•Symptoms predict subsequent negative events but negative events do not predict subsequent symptoms •Minimal support for buffering effects of positive events
Wagner, Compas, & Howell (1986) (see also Compas & Wagner, 1985)	•Adolescents (n = 58) •Mean age = 17.9	•Prospective •Three data collections 3 months apart	•Compas, Davis, Forsythe, & Wagner	•None	•Standardized measure of psychological symptoms	•Daily stressors mediate major events and symptoms: major events predict daily stressors; daily stressors predict psychological symptoms

conceptualization of these experiences as "life transitions" which are composed of multiple events or tasks. When seen in this way, the outcome of the "event" is a function of coping and adaptation to a series of multiple events.

Summary and Evaluation. These data indicate that there is a relationship between stressful life events and adjustment in children and adolescents. However, the evidence for a direct etiologic role of stressful events in the development of disorder must be viewed as weak, particularly concerning major life events. The correlations between major life events and psychological and/or physical dysfunction in cross-sectional studies are modest, with life events rarely accounting for more than 15% of the variance in symptoms. It is unclear whether these modest correlations accurately represent the life events-disorder relationship or underestimate its strength as a result of the conceptual and methodological problems outlined above.

Further, it appears that the relationship between major life events and psychological distress during adolescence may be different from that observed in adults. That is, evidence from prospective studies with adults has generated relatively consistent support for a pathway from life events to subsequent disturbance (see Thoits, 1983, for a review). However, the path from symptoms to events is more strongly supported during adolescence. This may indicate, as suggested by Swearingen and Cohen (1985b), that chronic stressful processes operate as a more powerful "third variable" in explaining the events-symptoms relationship in adolescents than in adults. Thus, they argue that discrete events may assume less importance in affecting the psychological well-being of adolescents than of adults. The significant association between daily stressors and symptoms during late adolescence found by Wagner, Compas, and Howell (1986) supports this position. However, focusing on chronic or daily stressors does not fully explain why symptoms might lead to later negative life events. The life-span development literature offers a possible alternative explanation. It may be that more major life events are normative and age-linked during adolescence than adulthood (e.g., advancing a year in school, obtaining a driver's license, graduating from high school). Prior psychological or physical disturbance may cause these events to be experienced as "off-time" and out of step with one's peers (cf. Hultsch & Plemons, 1979). For example, emotional problems may be associated with poor scholastic performance and subsequently being held back a year in school. Therefore, the prior emotional distress may be predictive of a negative perception of later school advancement. Fewer major changes in adulthood are as closely tied to age and may be less affected by prior distress. Closer examination of the association between prior symptomatology and specific age-related events is needed to test this hypothesis.

DIRECTIONS FOR FUTURE RESEARCH

The study of stress and life events during childhood and adolescence is emerging as an interesting and important area of clinical research. It appears that the nature of life events and their association with symptomatology during childhood and adolescence may differ in some fundamental ways from adulthood. However, many important questions are as yet unaddressed. Future research needs to center around three general areas.

First, investigations in this area need to be carried out with increased methodological rigor. The increased use of short- and long-term panel designs to test pro-

spective associations of stressful events and symptomatology is encouraging. More studies of this type are needed to untangle the paths of association between events and distress at different points in development. The development of a comprehensive, reliable, and valid measure of stress during adolescence is also promising for future research. It is particularly important to establish the test-retest reliability of measures of stressful life events if they are to be used in longitudinal studies in which events are assessed on multiple occasions. Without measures with adequate test-retest reliability, it is impossible to distinguish meaningful changes in the occurrence of events over time from measurement error. A high priority for future research is the development of a sound measure of stressful events in childhood. Prior scales of childhood stressful events have relied on parents' reports and perceptions (e.g., Coddington, 1972a). However, a recent study by Lewis, Siegel, and Lewis (1984) of children's reports of sources of distress indicates that, similar to the assessment of adolescent stress, it will be important to base such a measure on children's reports and perceptions. In particular, Lewis, et al. (1984) found that chronic stresses and daily hassles are important sources of distress for children. These minor stressors have not been included in existing measures of childhood stress (for an exception see Kanner et al., 1985, for initial work on the "Children's Hassles Scale"). To the extent that younger children may have difficulty with extensive self-report questionnaires, structured interviews need to be explored as an alternative format.

A second area of concern for future research involves a shift in the conceptual paradigm guiding child and adolescent stress research. While the field has progressed without any well-articulated models to provide direction, much of the work has been implicitly based on the hypothesis, or in some cases assumption, that stressful events cause psychological and/or physical disorder. As a result, most studies have been concerned with linear models of the etiology of emotional and somatic problems in which stressful events are thought to play a causal role. In contrast, models of personality (e.g., Bandura, 1978), human development (e.g., Cairns, Green, & MacCombie, 1980; Sameroff, 1975), and stress and coping processes (e.g., Lazarus & Folkman, 1984) have emphasized the reciprocal influences which people and environments exert on one another. For example, loss of a parent through death or divorce may lead to depressed affect in a youngster. The behaviors and emotions characteristic of depression may then influence the response of others, potentially increasing the frequency of negative interpersonal events (cf. Coyne, 1976). The modest support in prospective studies for a stressful-events-to-symptoms path and the relatively stronger support for a symptoms-to-stressful-events path suggest that a recursive model warrants further investigation.

The reciprocal relationship between person and environment is assumed by life-span developmental theorists to evolve and change over time (Brim & Ryff, 1980; Hultsch & Plemons, 1979). Thus, researchers must be highly cognizant of the point in development at which stressful events are being studied, as the association is not assumed to be static. A transactional developmental model has three clear implications for child and adolescent stress research. First, the developmental level of subjects must be taken into account. Cognitive appraisal processes, types of events, and the role of parents as buffers against stress may all change with age. This will involve more than merely accounting for chronological age, as cognitive and social development do not progress at a universal rate for all individuals. Second, the pathway from symptoms to events, as well as the more commonly studied events-

symptoms path, needs to be examined in more detail. The very nature of the stress-disorder relationship may change with development. Third, stress and symptoms in family members, particularly parents, may affect and be affected by child stress and disorder. Mutual parent-child influences have only recently become a focus of research (e.g., Burt, Cohen, & Bjorck, 1986; Compas & Phares, 1986; Thomson & Vaux, 1986) and warrant further attention.

Research to date indicates that there is substantial individual variability in responses of children and adolescents to stressful life events. Therefore, a third area for future research should involve factors which may make some youngsters more *vulnerable* to stress while enabling others to resist possible adverse effects of stress. Primary among these is the way an individual copes with stress (see Compas, in press, for a review of coping during childhood and adolescence). That is, children and adolescents may differ in the personal and social resources they have available to them for managing or overcoming stress, and they may differ in the ways they try to deal with stress. With the exception of studies examining social support, the investigations of child and adolescent stress reviewed here have failed to include either coping resources or actions. Thus, they are limited in their ability to distinguish children who effectively handled their stress from those who were less successful. Another important avenue for understanding vulnerability to stress will involve the interaction of specific person characteristics and particular types of events in the development of distress. The work of Hammen and her colleagues is instructive in this regard (e.g., Hammen, 1985; Hammen, Marks, Mayol, & deMayo, 1985). In her work on the etiology of depression, Hammen has found that cognitive schemas and types of stressful events interact as sources of vulnerability to depression. For example, individuals with a self-critical schema may be vulnerable to negative achievement events while others with a dependent self-schema may be vulnerable to interpersonal loss events (Hammen et al., 1985). Thus, research needs to examine characteristics of individuals and events which are stressful when they occur in combination, rather than focusing on aggregate associations between events and symptoms across individuals.

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