Handbook of Cross-Cultural Human Development

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Cities, Stress, and Children: A Review of Some Cross-cultural Questions

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Whatever trade, profession or vocation you decide to follow, I hope you will keep an intense interest in land to which you can retire when the pace of life in the modern city becomes intolerable. It will slow the beat of your heart, increase the capacity of your lungs, force patience on the most restless of you, and dependence on the proudest. It is no false romanticism I'm foisting onto you. I'm well aware of the cruelties and treacheries of Nature. But there is also a wisdom to be acquired away from artificialities of city life which I venture to think you may profit by.

Kenneth David Kaunda (1973)

There is a pervasive belief in Western industrial societies that cities are stressful and cause anxiety and that the rural and small town environment (not to mention the "good old days" more generally) offer a bucolic alternative lost to the city dweller. Controlled studies of urban-rural differences in stress do not support this Western folk view. There is little evidence for a systematic, global influence of urban stress on parents. The available evidence suggests that the context in which urbanization occurs, the role of folk beliefs, and acculturation are critical mediating factors in understanding the effects of the city on family and child.

The chapter is not an exhaustive review of current cross-cultural or comparative urban studies, cross-cultural or comparative studies of families or stress, or a review of the concept of stress and acculturation. Indeed, there are few examples of cross-cultural research which combine these three perspectives—urban studies, studies of stress, and studies of children in urban settings. In general, the study of cities by anthropologists includes little on childhood and child rearing. Work in other fields that has examined urban-rural differences in children's behavior, including stress, is similarly uncommon. Thus a chapter for a handbook of cross-cultural human development focusing on cities *and* children *and* stress should redefine, conceptualize, and ask questions.

Lofland (1975) provides one possible interpretation as to why there are relatively few studies of stress, urban life, and families. Lofland reviewed major works in urban sociology on American cities to discover what these studies have told us about the role of women and found relatively little on women in this literature. Lofland suggests that there is so little focus on women because they are "just there"; they c···

their children) provide the background, the setting, for the study of men in American urban communities. Just as the study of the lives and careers of women in urban community settings has begun only recently to receive more focused attention, so have studies on children and child rearing.

The paucity of studies specifically in this area encourages a broader look at the general question of city life, stress, and families. The chapter will begin by outlining some definitions and content problems with terms such as stress, urban, rural, and so forth. Some direct rural-urban comparisons of stress are discussed, followed by a review of two general factors implicated in rural-urban differences: life changes due to migration or mobility, and crowding and density. Next, if direct comparisons do not show strong differences between city and country, what cross-cultural mediating variables do appear to affect stress in cities? Consistency between urban and rural settings in child-rearing practices, ecology, and beliefs appears to affect the levels of stress reported. The final section suggests some areas for future research.

CROSS-CULTURAL STUDIES OF CITIES AND STRESS

Cross-cultural Urban Differences

Cities in non-Western settings are not necessarily mirrors of New York or Los Angeles, and the social organization of non-Western cities varies enormously. Students of comparative urbanization and urban anthropologists and sociologists have provided voluminous documentation and typologic analysis of the immense differences in cities around the world (Basham, 1978; Gulick, 1973; Fava, 1968; Fox, 1977; Southall, 1973; Walton & Carns, 1973). There are urban settings where the subsistence mode centers on horticulture and artisan and trading activities (e.g., Bascom, 1955, and Lloyd, 1973, for the Yoruba of West Africa); there are cities with clearly delineated neighborhoods where family relationships center around extended family compounds and ethnic homogeneity much as might characterize rural horticultural communities (e.g., Rowe, 1973, and Seymour, 1976, on India); and there are urban centers which mirror political and economic systems of the colonial and neocapitalist era in often extreme forms yet retain traditional cultural social institutions as well (e.g., Mayer, 1971, for South Africa).

This remarkable variability in city life is a proper starting point for thinking about the effects of cities on new arrivals, and on families, children, and stress. Are there central tendencies—some similarities in most cities most of the time—which might have consistent effects on families and children? If there are some such consistent effects, research must focus on what the specific antecedents were which produced them, since the covering category of "urban" conceals enormous diversity. It is an empirical question whether crowding, density, diverse ethnic contacts, occupational specialization, smaller family size, and other attributes characterizing many urban settings are actually present in any family's environment; clearly this cannot simply be assumed to be the case because families reside within a city's limits. Every city has enclaves, neighborhoods, and life styles of great diversity, including many where the intimate, daily experience of a child or family is not one of crowding and heterogeneity. The conventional term "urban" should not become a convenient gloss for ignoring such variations within or between cities.

Rural–Urban Comparisons Within Cultures

Rural-urban comparisons are also difficult because differences based on ecology or geography or culture area are so often confounded with other critical family

variables. Common confounding variables include acculturation levels, education, language use, socioeconomic status, family size and composition, occupational characteristics, and so forth. Which of these vary directly with city and country residence within a culture? It is seldom clear which specific rural–urban difference might influence stress reports, or even what the importance of each is. Just as with city-to-city comparisons, then, it is seldom possible to make tidy rural–urban ecologic distinctions.

Definitions of Stress

Controversy nearly always surrounds a folk concept which has been expropriated for scientific use by many disciplines. The definition of "stress" or a "stressor" is no exception. For convenience in this review, the referents of stress or a stressor will refer both to situations that may tend to be stressful as well as the psychic or physical state within people who are experiencing stress.

Appley and Trumbull (1967, as quoted by Glass & Singer, 1972, pp. 5–6) provide a vivid paragraph describing the presumed urban environmental stressors in the large metropolis and end with a very general definition of psychological stress:

> Life in the city is an endless round of obstacles, conflicts, inconveniences, and bureaucratic routine. The urban dweller is confronted daily with noise, litter, air pollution, and overcrowding. Some of these conditions are pervasive. Others occur only at home, or at work, or in transit. Their incidence is profoundly disturbing, and many commentators on modern urban life allege that such conditions produce behavioral and physiological consequences inimical to the health and well-being of man. The study of these consequences may be subsumed under the category of *stress*, which has been generally defined as the affective, behavioral, and physiological response to aversive stimuli.

The definition of psychological stress includes affective, behavioral, and physiologic reactions; the question of what an "aversive" stimulus is for an individual or group is not defined. If aversive stimuli are defined solely by their outcomes, the outcomes need to be specified before the term can be widely applied; if there are clear physiologic or psychosomatic responses operationally defined as indicating stress, their validation depends on the conventional criteria of content and convergent validity, replicability and so on.

Some stress and resultant anxiety or disturbance are a part of all life and may indeed be essential for effective functioning (Selye, 1956). For example, childhood stresses in some mammals produce stronger, healthier adults; the work on animal handling (but cf. Freedman, 1974, pp. 92–94) and human responses to inoculation (Landauer & Whiting, 1964) illustrate these kinds of stressor effects.

Most urban and cross-cultural research is concerned with excessive amounts of stress for long periods of time resulting in some measurable trouble, concern, or decrement in functioning. "Adjustment" or "adaptation" to stress may be defined simply as habituation to what initially was stressful. These terms may also imply a more active and long-term involvement of individuals in shaping changes in themselves and in their environment, as well as the implication that the adaptation is for the better—it helps persons to function better than before the stress occurred. Cross-cultural research has been concerned particularly with adaptation in the broader functional sense of the term. There have been very few attempts to deal with the folk perceptions of stress, stressors, and adjustment. Using broad and inclusive

definitions and operational measures of these concepts is both necessary and probably useful at this early stage of comparative work.

In practice, most cross-cultural studies have measured feelings of stress with some version of a self-report psychophysiologic symptom scale. These scales list a series of items such as biting one's fingernails, having trouble sleeping, or having trembling hands. Among the most widely used have been the Health Opinion Survey (MacMillan, 1957) and a 22-item screening scale (Langner, 1962) derived from the Cornell Medical Index. Inkeles and Smith (1974) review the scope and use of these and similar measures.

Stress and Problem Solving in Specific Environments

Howard and Scott (1965) have reviewed both biologic and sociopsychological approaches to the study of human stress and propose a model which relies on the concept of humans seeking a dynamic equilibrium with their environment. The essential sequence involves humans as presented with problems which lead to disequilibrium and the necessity to expend energy to solve the problems. Problems people must solve can come from (1) the person's own biochemical environment, (2) the external physical environment, (3) the person's own psychological environment, and (4) the person's sociocultural milieu (Howard & Scott, 1965, pp. 145–146). The core idea in Howard and Scott's paper seems intuitively sensible and useful in thinking about stress, adaptation, and adjustment in cities and during sociocultural change: people are faced with a set of *problems*, and personal *energy* is needed to deal with them. Big problems are hard to solve, probably involve physiologic, psychological, and behavioral consequences, and produce some degree of stress and anxiety. Parents and children moving to cities define and are faced with new problems and deal with them with varying degrees of success; the interaction between the urban and other stressors, how these are viewed by families, and the resultant stress experienced by family members are each important foci for research.

DIRECT RURAL–URBAN COMPARISONS OF STRESS REPORTS

What is the direct evidence for rural–urban differences in stress between rural and urban populations in different cultures? Do city residents, or migrants to cities from rural areas, report or experience more stress symptoms than their rural counterparts? The first step is to review studies which have surveyed this question or report cross-cultural work on this topic.

The Dohrenwends (B. P. Dohrenwend & Dohrenwend, 1974a; B. S. Dohrenwend & Dohrenwend, 1974b) have reviewed sociocultural factors related to the occurrence and distribution of all types of psychopathology, extending their own comprehensive study (1969). They report on "ten pairs of rural and urban rates from studies within which uniform procedures were used" (1974a, p. 434). Their rates of pathology are not limited to psychosomatic stress nor are reported by any particular subgroup, such as children, mothers, etc. However, these comparisons do provide the best available summary of general urban-rural differences in psychopathology. On the basis of these studies, the Dohrenwends conclude the following:

The most reasonable hypothesis appears to be that total rates of psychopathology are somewhat higher in urban than in rural areas, due at least in part to an excess of neurosis and personality disorder in the urban areas. Whether these differences

are a function of harsher stress of residents of urban settings, however, is quite a different matter. (1974a, p. 435)

The absolute differences in prevalence rates are small; the median difference is only 1.1 percent higher in urban centers, with the largest absolute difference of 13.9 percent higher city rates. Psychoses and manic-depressive illnesses were in fact more prevalent in rural samples, while there were no clear urban–rural differences in the prevalence of schizophrenia. The overall implication of "true prevalence" studies for urbanization and stress appears to be that if there is a general, ecologic setting effect of cities, this effect is a small one but does often appear to include psychosomatic stress or anxiety. Further, evidence for urban–rural differences specifically affecting mothers, fathers, children of differing ages and sexes, or differing kinds of family units, is not available for cross-cultural generalization at the present time.

Weisner and Abbott (1977) also reviewed 22 cross-cultural studies of psychophysiologic stress. Stress measures used in these studies ranged from versions of the Cornell Medical Index self-report scale (ten studies), estimates of overall impairment in functioning (four studies), rates of disease implicated in stress (five studies), and blood pressure levels (two studies). The samples ranged widely in geographic distribution and level of sociocultural complexity. Age, educational level, income, sex, and urban–rural residence are all background variables utilized by many of these studies and implicated in acculturative change. The overall pattern of results showed a rather inconsistent relationship between these antecedent variables and stress. One study which directly tested urban–rural differences (controlling for other variables) found that urban subjects reported higher stress; a second found no differences unless the subject had migrated from a rural setting different from the city setting they moved to. Clearly, the variety of stress measures used in these studies influenced the results, and contextual differences in the meaning of stress and stressors play an important role. However, "it is certainly not the case that general background variables taken out of context are conspicuously consistent in their relationships to stress" (Weisner & Abbott, 1977).

Among the most extensive and carefully done cross-cultural studies of the relationships between urban experience and psychosomatic stress symptoms is the work of Inkeles and Smith (1970; 1974). They observed that the notion of the city as a powerful stressor of men, if not a generally evil and noxious place to live, is a common belief among laymen and social scientists alike:

In our experience, no belief is more widespread among critics of industrialization than that it disrupts basic social ties, breaks down social controls, and therefore produces a train of personal disorientation, confusion, and uncertainty, which ultimately leads to misery and even mental breakdown among those who are uprooted from the farm and herded into great industrial cities. (Inkeles and Smith, 1974, p. 261)

Inkeles and Smith found little support for these popular beliefs about the effects of cities, modernity, or factory work on reported stress. They interviewed large samples (720–1300) of men in six developing countries—Argentina, Chile, India, Israel, Nigeria, and Pakistan. Their complex sampling design included men who were rural farmers, newly arrived urban migrants to various kinds of cities, industrial workers in factory settings, and urban workers employed outside of large productive

enterprises. They used items from psychosomatic symptom self-report scales, varied slightly for each country. Inkeles and Smith provide detailed evidence for the internal reliability of scale items and substantial evidence for external validity by comparing psychosomatic report scores to other responses men made during their interview session which indicated some feelings of disturbance or anxiety. In short, given the constraints of self-report symptom techniques for estimated prevalence of stress in cross-cultural work, Inkeles and Smith provide a thorough and careful argument for the usefulness of their measure.

Inkeles and Smith's results for urban–rural differences are presented in detail (1970, pp. 97–101). Their results do not absolve cities of creating stressful effects on young men, but these effects appear to be weak. In addition, reasons for urban–rural differences are not clear from their data. Two of five countries show a significant negative correlation between the years men lived in the city and adjustment scores (Argentina and Pakistan), two others were negative in direction (Chile and Nigeria), and one (India) was slightly positive. A technique of controlling for other background variables (education, factory experience, mass media exposure, and mobility) within each country sample permitted a more direct look at the effect of urban exposure on reported stress; again, four of the five countries on which this analysis could be run showed that men with fewer years of urban exposure did indeed have better adjustment scores, although none of these correlations showed statistically significant differences.

Whatever urban characteristics may make men experience more stress should increase in amount and intensity the larger the urban setting is. Is there, then, a "critical mass," or synergistic effect of living in larger urban centers compared to smaller cities? There is a different atmosphere and feel to the large central capital compared to the small regional center, although what these qualitative differences between big and small cities might be in the aggregate is not well defined. Inkeles and Smith compared the men in their sample living in large cosmopolitan cities to men from smaller regional centers. Four of five countries showed no correlation between larger and smaller cities and stress reports; in India men in the smaller cities reported more stress. Inkeles and Smith's work suggests that there is a weak effect of urban residence on stress but no indication that larger, dense, heterogeneous, and cosmopolitan cities produce more stress.

Men in the Inkeles and Smith study who had migrated to cities from rural settings did not have higher stress scores than men who were low in migration and mobility in their recent pasts. However, what happened to the men after they arrived in the city did produce differences in stress reports. Men who ended up in more secure and higher-status jobs after migrating reported somewhat less stress than men who had been less successful. This finding is to be echoed later in this chapter when discussing correlates of differences in urban–rural stress reports—the degree of fit, or the ecologic and familial match between city and country settings, influences stress experienced by migrants in cities. Large city–country differences and relatively poor urban economic success lead to higher reported stress symptoms.

There are cautions to be kept in mind in evaluating the Inkeles and Smith data: the men surveyed were under 40 years of age; all were employed, thus narrowing the range of variation in class and types of adaptation; and no direct health measures were available. But there is certainly no evidence of a widespread, strong, stressful effect of city life among men in these six countries.

Finally, Fischer (1976, pp. 153–177) has done a recent and comprehensive review

of research on the effects of cities on disorder, alienation, and psychological stress. He considered outcome measures as diverse as mental illness, suicide, alcoholism, and personality differences between city and country populations. "The conclusion is important enough to reiterate. Despite widespread notions that city life inflicts psychological damage, we have no evidence that it is so. It probably is not so" (1976, p. 169).

The Dohrenwends contrast a social stress interpretation of urban–rural differences to a social selection model. Are certain situations (lower-class membership; being a man or woman in urban society; living in the city or the country; being a member of an oppressed ethnic minority) productive of stresses and strains which in turn lead to psychopathologies? Or do men and women, migrants and nonmigrants to cities, etc., have different kinds of successful and unsuccessful adjustments to various situations, producing differential class and geographic mobility patterns, leading to selective migration between country and city, or selective upward economic mobility, etc.? Do families who move to a city from a rural, traditional community have a higher level of psychophysiologic stress than those who remain behind? Or do cities raise the level of stress in migrating families which in other respects are no different from those left in the rural community? Even more complex interpretations than these are plausible.

Assume, for example, that cities do produce more stress in mothers but that mothers who migrate to the city are more adaptable and better adjusted than those left behind; the complex interaction of both factors would produce only small differences, or no differences, in rural and urban stress and pathology. And only small differences are found in the results of the Dohrenwends' rural–urban comparison. Rabkin and Struening (1976) raise the same point in their review of life change research; not only might high life changers differ in confounding ways from nonchangers, but changers may seek medical or other help more often than nonchangers. At best, then, there is very weak support for a general rural–urban difference hypothesis.

Weisner and Abbott (1977) explored this problem by comparing women in varying life circumstances in different ethnic groups in Kenya in an attempt to examine the sociocultural contexts which produce psychosomatic stress. They used versions of the Health Opinion Survey and interviewed (1) Kikuyu women living in Nairobi as market traders, (2) Kikuyu women living in a rural horticultural community, and (3) a matched sample of Abaluyia women, some of whom did and some of whom did not commute back and forth between a rural farm and the urban residence of their husbands. These women differed in characteristics other than their urban or rural residence. The Kikuyu urban market women were economically self-supporting, while the full-time Kikuyu rural women were partially dependent on their husband's earning and/or cash crops. The Abaluyia commuting sample had little economic support other than their husbands' wage earnings and their subsistence crops. These commuting women were in contact with city life but were also part of a strong rural-urban kinship network which provided social supports and contacts with other women in similar circumstances. The rural women's husbands were often away, living and working in urban centers. These women bore the burden of maintaining the rural homesteads, plus working in cash crop or other trading activities, and dealing with their husbands' rural-resident kin.

The rural–urban matched sample did not differ on either psychophysiologic stress reports or a questionnaire measure of modernization. Weisner and Abbott comment

that "the back and forth movement between city and country and Abaluyia women's economic and familial roles in the rural economy are more important than simple periodic exposure to potentially modernizing urban settings" (1977). The urban market women had stress scores lower than those of their rural counterparts and similar to those of the rural–urban network sample. Thus urban exposure did not in itself produce higher reported stress for these women; rather, the socioeconomic pressures on the women appear to be more influential in producing stress:

It has long been proposed that urban residence is a high-stress, high-pressure environment for an African woman. It is our finding that urban residence can be much less stressful than rural residence, or equally stressful—depending on the relative autonomy, level of income, and stage in the life cycle of the individual. Urban resident women married to men employed in town who maintain rural homesteads (the urban Abaluyia women) have very different situations than urban women (such as our Kikuyu urban market women) who are independent by and large of rural ties and are essentially entrepreneurs and shopkeepers in their own right. Both differ from women tied to their homesteads through the work demands of their subsistence and cash crops (rural Kikuyu) or subsistence alone (urban Abaluyia). (Weisner & Abbott, 1977, p. 437)

In conclusion, a series of studies comparing urban and rural stress reports have not found strong and consistent differences between city and country samples. There have been some slight differences reported in some of the literature, however. Differential migration and social pressures as causes of what urban–rural differences there are have not been disentangled for stress reports. Variables such as age or sex or family status are related to the experience of stress in city and country settings but do not appear to have a consistent association with stress in city and country locations. Just what the differences are between city and country settings which might produce or reduce stress have not been clearly identified. The next section explores two such differences, which are probably the most striking contrasts between city and country settings—crowding, and life changes and mobility.

URBAN–RURAL SETTING DIFFERENCES AND STRESS

The fact that there are no large-scale measurable differences in stress between most city and country populations ends any hope of a simple ecologic comparison between the two places. This result simply forces the question to a more complex level. Since the concepts of "urban" or "rural" settings hide enormous variability, perhaps there are specific features of some urban settings, under some conditions, which do produce feelings of stress yet which are masked by global cross-cultural comparisons of cities. Further, the relevant comparison may be not strictly between city and country but rather an evaluation of the relative differences between particular urban and rural environments. Perhaps the degree or types of contrast between the two settings is more relevant for producing stress than simply comparing residents in the two places. This section explores the influence of crowding and density and of life change or mobility. Each has been implicated in increasing stress, and each is associated with some, if not all, rural–urban regional environments and urban centers. The next section looks at the question of the fit between city and country settings as an important intervening factor in producing stress in city or country dwellers.

Crowding and Density Effects

A presumed urban characteristic closely studied by psychologists and sociologists is crowding and density. It is worth discussing this variable along with the comparative reviews of urbanism and stress, since the results appear to parallel those for general reviews of global urban effects. J. Freedman (1975) reviewed the literature on direct relationships between crowding, density, and stress responses in man; he concluded that crowding does not have a clear negative or positive effect on stress:

Controlled experiments in which density is explicitly varied [have] not found negative effects of high density. With one exception, those studies that did find overall effects of density found people responding more positively under high than low density. . . . There is no evidence from this body of work that crowding causes either stress or arousal. It does not affect task performance, it does not make people more anxious or nervous, and it certainly does not make the experiences more unpleasant. If density does have generally negative effects, they should have appeared in these careful experiments. (p. 105)

Freedman does argue that high density makes other people a more important stimulus and therefore *intensifies* typical reactions to them. Intensification, for example, would imply that a high-density situation would elicit more positive responses when the situation was positive, while negative situations would bring out a stronger negative reaction under high—compared to low—density. There is, in short, a strong density-by-affective-valence interaction effect. Freedman also points out that there are complex sex differences in responses to high- and low-density situations. The thrust of his review is that it is the salience of and responsiveness to others, rather than stress, which increases with density.

Bausano (1977, pp. 27–29) reviewed several studies of the effects of density and crowding, both social and spatial, on children, and her review supports the views of Freedman. She suggests that "experiments investigating 'crowding' and its effect on specific classes of behavior have led to contradictory results." Fischer (1976, pp. 154–164) also could find no clear effect of crowding.

Ashcraft and Schellen (1976) illustrate the complexity of the crowding-density-stress relationship for children and families in naturalistic settings in their work on differences in the use of space among various ethnic groups in the greater New York City area. They comment on a Puerto Rican family, for example, whose members frequently congregate in the same room even if pursuing separate activities. Women and small children are often housebound through much of the day and throughout the evening hours. In fact, "in one home, the housewife did not leave the apartment during eight weeks of continuous observation. She did permit her two young boys to play in the afternoon under close supervision at the church playground" (p. 91). The Puerto Rican family members crowded together in spite of the availability of other space:

It is not unusual then to witness a Puerto Rican family of six or seven huddled together in one room for the duration of the evening hours. In one household we recall a regular family event of the children and parents packed onto a sectional sofa watching television. After the children went to bed, the husband and wife would remain on the sofa sitting as close together as before with their arms about each other. . . . This habit of sitting close together appeared to us to be a rather consistent part of Puerto Rican home behavior. (Ashcraft & Schellen, 1976, p. 91)

In contrast, black American families and Anglo-American families tend to spread out in their same apartments and use the whole room. They do not touch each other as much, they use different seats in the same room, and they do activities in different rooms.

Ashcraft and Scheflen are highly critical of studies which measure crowding in terms of square feet per individual, number of rooms, surrounding space of the home, use of the space available for dispersal, and so forth. In general, Ashcraft and Scheflen believe that the results of these kinds of comparisons are largely "uninformative" (p. 94). Ashcraft and Scheflen's comments on New York City building codes, which state that a child requires 60 square feet of living space, are apropos:

> The question is: how much space does a child require for which activities, at what times of the day, and in which portions of the household, and in which portions of the neighborhood that supports the living space within the confines of the household? One of the first steps involved in trying to understand human space requirements is to go where humans can carry out an activity and observe their behavior directly. (p. 192)

Ashcraft and Schflen's message for studies of urban life, families, and stress is that simple urban density measures of square feet can be misleading; that ethnic differences in usage of the same space can be an important variable; and that parent/child behaviors which might be related to some indirect estimates of stress (such as aggression, parental involvement in child disputes, privacy, and so forth) cannot be linked directly to spatial variables. The perception of the external neighborhood setting in New York City as dangerous, however, does appear to be fairly uniform —although the response by families in their use of interior design, or mobility in and out of the home, varies widely. Although this work implies that there is no density factor of powerful pancultural importance, it does not say what *does* produce the urban differences in family interaction which were observed, nor does it compare rural populations to conclusively demonstrate that there is no systematic urban spatial—ecological factor influencing family behaviors. Until this sort of work is carried further, crowding and density remain an undemonstrated urban stressor.

Life Changes, Stress, and Illness

Migrating to a town or city is a major life change. However many important intermediate and supportive institutions there may be, whatever the fit between rural and urban economic and cultural demands, and whatever the known variations in kinds of city environments around the world, the change is profound. Living in a city very likely produces more change and variety in daily life as well. The most important point to be made about life change, urbanization, and stress is how well and how successfully most people make such a change and how little major disruption there is. The great majority of people moving to cities or living in them do not become seriously or even moderately ill, and certainly do not become disabled. There may be a *relatively* greater degree of reported stress, observed medical problems, and the like, but such a finding must be seen against the general background of the overall successful adjustment characteristic of the millions of urbanizing families throughout the world. Exposure to cities as a potential stressor cannot be a sufficient condition for accounting for the onset of illness or increased stress but rather must

be viewed as one among many factors and must be seen within the comparative rural–urban context.

The concept of life change, stress, and illness has an extensive literature recently reviewed by Rabkin and Struening (1976) (see also Dohrenwend & Dohrenwend, 1974a, b). Rabkin and Struening talk about the characteristics of external stressors which have been shown to influence the onset of illness. The magnitude of stressors (how far they depart from a baseline condition), the intensity or the rate of change, the length of exposure, preparedness, and absence of prior experience of the particular stressor have all been found to "heighten the impact of stressful events" (Rabkin & Struening, 1976, p. 1018).

The support systems available to individuals undergoing stress have been shown to be of great importance (see Caplan & Killilea, 1976). Rabkin and Struening mention three kinds of social supports or social network mechanisms influencing response to stress: social isolation, social marginality or minority membership, and status inconsistency (p. 1019). Living alone or in an isolated setting can in itself lead to greater vulnerability to chronic disease, for example. "Social marginality" is a more complex variable and in cross-cultural studies is particularly difficult to measure. One piece of evidence for the importance of marginality is an ecologic correlation between the sheer numerical size of a given group, or "ethnic density," and hospitalization rates for psychiatric disorder. If "a given ethnic group constitutes a smaller proportion of the total population in a particular area, diagnosed rates of mental illness increase in comparison both to the rates for other ethnic groups in that area and to the rates of the same ethnic group in neighborhoods where its members constitute a significant proportion or majority" (p. 1019).

Status inconsistency is likely to co-occur with urban migration or urban residence for newcomers to a city. Urban migrants, however, are not necessarily individuals who are always status inconsistent, especially if migration is a common part of the life cycle for members of that rural community (Weisner, 1976a). In addition, whether the status inconsistency of the occupational or employment situation is higher or lower than the family background appears to make a difference (Hinkle & Wolff, 1957). If one's current occupational and employment situation is *lower* than one's own family background, Hinkle found that illness events were greater than where there was a congruence. The same was not true for upwardly mobile individuals.

Individual characteristics are also important as mediating factors in stress—in other words, how the stressors are perceived by individuals. Internal and interpersonal mediating characteristics also influence the perception of stressors. These are summarized by Rabkin and Struening as "biological and psychological threshold sensitivities, intelligence, verbal skills, morale, personality type, psychological defenses, past experience, and a sense of mastery over one's fate" (1976, p. 1018). Glass and Singer (1972), for instance, emphasize the role of perceived control over stressors (noise, in their experiments) as a critical factor in influencing subjects' performances on complex tasks. Berry (1976), Chance (1965), and others also emphasize that the same environmental conditions may be perceived differently by different subcultural groups; these differential perceptions of a situation mediate responses to stressors. The ethnographic literature concentrates on group and cultural differences in perceptions of change and stress, while Rabkin and Struening and the Dohrenwends, reflecting a social-psychological approach, document individ-

ual differences in responsiveness. Many demographic characteristics (age, sex, and family size, for instance) have also been shown to be influential in the perception of stressful events.

Migrants to cities in developing countries, or anyone who has recently come to an urban center from a non-Western background, can be assumed to have had a significant number of changes in life experience during the recent preceding years. Rabkin and Struening suggest that there is a "modest but statistically significant relationship" between increasing life changes and physical disease, including psychosomatic symptoms (p. 1015). There is some question as to whether the measures used for studying these relationships are valid; this is thoroughly reviewed by Rabkin and Struening. In addition, it is not clear whether or not life events scores are related to onset of illness or "care-seeking behavior" (Rabkin & Struening, 1976, p. 1016). Life change may simply produce a greater likelihood of seeking medical treatment, rather than producing actual symptoms. Thus, even though

> ... causal relations have been found between stressful life events and worsening of psychiatric conditions already existing, and between life events and subsequent admission to treatment facilities, [Hudgens] has not found it convincingly demonstrated that ordinary life events cause illness. Instead, it may be that life changes lead people to seek medical treatment, that they are equivalent, perhaps, in their etiological role to the availability of medical facilities or funds with which to pay for treatment. (Rabkin & Struening, 1976, p. 1016)

It should be noted that one of the reasons for short-term visits to cities by many mothers and children in non-Western countries is precisely to seek medical treatment. Therefore differential urban migration of mothers and children seeking treatment may produce a spurious correlation between urban residence and the likelihood of medical records, admissions, and reports of any kind.

Miller, Bentz, Aponte, and Brogan (1974) utilized a version of the life events technique to compare a group of rural and urban adults in North Carolina in their perceptions of life crises. The rank order correlation of the lists of crises was high $(\rho = 0.85)$. However, the amount of readjustment these crises required was evaluated differently by urban and rural respondents. Four factors were extracted from the list of life crisis events; for each factor, a core of events was similar for city and country subjects, with others varying between the two samples. In general, differences between the two samples were related to specific features of the meaning of life crises in each context, rather than indicating a general difference in perception of stressful events in the two samples. "The urbanite from a Northwestern city and his [or her] rural counterpart may live in matrices of similar stresses, but with the dimensions of stress slightly involving some events unique to the subculture" (1974, pp. 272–273).

There are some scales of psychiatric impairment, including some stress-related items, becoming available for young children (Langner, Gersten, Eisenberg, McCarthy, Greene, Herson, Jameson, & Temkin, in press), and some work on stressful life events and children's behavior (Gersten, Langner, Eisenberg, and Orzek, 1974). Leighton (1972) measured stress levels in children in public schools in North Carolina and adapted the HOS for use with American children in a large-scale screening program setting. Suepsaman (1973) studied stress in Thai school children, but this study was unavailable for review. On the whole, the work done to date has focused on adults, with very limited attention to children specifically, or to larger family influences.

CONSISTENCY BETWEEN URBAN AND NONURBAN BELIEFS

Each of the sections to this point has given cities a rather good review: cities are not inherently stressful, and factors which often go along with urban residence (such as life changes, migration, and crowding) either have a mixed effect on stress or are as likely to produce stress in nonurban settings. The focus has thus far been on characteristics of city life which are likely to be stressful but which in fact are not or at least seem to be no more stressful in rural areas.

This section looks at the fit between cities and the rural and traditional settings from which migrants come, and particularly at the effects of differing ecologic adaptations of traditional societies and the effects of these adaptations on urban adjustment. The urban–nonurban comparative view asks about the compatibility between city and country settings and the effects of consistency or inconsistency between the two settings on stress. In this area of study, cross-cultural research seems to suggest a general hypothesis concerning the urbanizing experience and its relationship to stress: incompatibility tends to produce more stress.

Consistency and Beliefs

Leis' study of acculturation among the Ijaw provides an illustration of the use of the consistency model. Leis (1964) lists a series of acculturating traits and can see no regularity in the way in which traits have been maintained under conditions of culture contact. Leis suggests that "those traits perceived by a people as being interdependent with others, particularly with other elements unaffected by acculturation, will be less likely to change than those which are recognized by the people as being loosely related to other traits in an indigenous pattern" (p. 41). This raises an interesting question about development and social stress in urban settings.

Some urban settings and/or some traditional cultures from which people have come to cities may encourage this maintenance of an intellectual consistency among preexisting traits—that is, maintenance of a consistent folk interpretation of cultural patterns. If urbanizing cultural groups live in cohesive neighborhoods or retain their indigenous language and are otherwise able to retain these practices, survival is also likely for traditional child-rearing practices and child behaviors which are consistent with the indigenous culture. Settings where these intellectually consistent traditions of explanation are not maintained by the people themselves, or where the urban environment does not promote the use of a native language, neighborhood coresidence, strong urban kinship networks, etc., should be less likely to maintain traditional child-rearing practices.

Loss of stable sets of folk beliefs, in turn, may be related to stress. It is also possible that new urban child-rearing patterns, altered through acculturation, which cannot be subsumed into an existing explanatory system of the indigenous culture will be practiced more inconsistently and produce more stress and anxiety among parents practicing them and among the children on whom they are practiced. Although there is little evidence concerning the direct effects of differences in folk beliefs on children or stress, there are some cross-cultural studies implicating consistency and the degree of fit between traditional and modern/urban settings in reports of stress. This approach suggests that rural–urban comparisons alone find few differences in stress because it is the *relative* degree of change in life circumstances within societies that leads to greater stress.

Howard (1974, p. 183) has compared Hawaiian-American mothers and fathers on

several child-rearing dimensions (obedience styles, care and affection, importance of training children, and others) in a periurban community on Oahu. Howard found a relationship between high psychosomatic stress scores on the Cornell Medical Index (CMI) and the use of material rewards and physical punishment. These relationships are not found for men's reported child-rearing styles. Howard also found that women raised in Honolulu are most likely to materially reward their children. "Perhaps," Howard says, "it is in an urban environment that the vulnerability to rejection is greater, owing to the increased ambiguities that characterize loosely knit networks" (p. 184). It is important to note, however, that Howard does not report an association between the CMI and any of the other child-rearing variables for men and women. The influence of stress appears to be limited only to increased use of physical punishment and material rewards for women. The influence of a Honolulu upbringing for women also is reported to influence use of material rewards only. This is a very modest effect, and one that is too specific to offer many general clues to urban effects on families' changing beliefs.

N. Graves (1972; also reviewed by T. Graves and Graves, 1978) compared urban and rural patterns of child rearing and beliefs about children and parenting among Spanish-American, Anglo, and African children. In her first series of studies, N. Graves contrasted rural and urban mothers' beliefs about their efficacy in influencing their children and beliefs mothers had about how malleable or teachable their children were. She found that her urban Spanish-American mothers were not uniformly adopting Anglo child-rearing methods and beliefs about children, even though these Spanish-American mothers were using Anglos as a reference group for acculturation. Denial of social access to Anglo life led to a selective rejection of new child-rearing patterns. Parental feelings and beliefs about efficacy and control of children appear to depend on class, ethnic, and power relationships between subcultures as well as urban residence or acculturation.

Howard (1966) described the adaptation of Rotuman and Fijian Islanders who have been exposed to the urbanized market economy, if not larger urban centers. Part of Howard's argument contrasts child-rearing practices between Fijian and Rotuman societies. Howard's study supports the general model that a closer fit between traditional and modern patterns of child rearing is likely to lead to better adjustment in urban-acculturative situations. Howard suggests that the "parental pressure for and reward of early achievement, an affectionate relationship between parents and children, early encouragement of independence, and low father dominance" (p. 268) are more conducive to acculturation to Western and urban norms.

Following the general model of stress and adaptation as problem solving, Howard suggests that individuals or groups whose models for decision making and whose range of problem-solving settings are broad will be better able to adjust to changing conditions than a group whose decision-making models are highly specific (p. 270):

This brings us to a key question: How does culture, including social organization, affect the capacity of individuals to adjust to a developing economy or to acculturation circumstances in general? The answer appears to lie in the type of socialization, and hence learning, associated with different types of culture. In a culture characterized by highly specific solutions to recurrent problems, one expects rote learning to predominate and behavioral prescriptions to be explicitly and mechanically taught. To the extent that this is true, the product of learning will be an

alloplastic cognitive structure, or mazeway; i.e., one which cannot easily be altered to accommodate unusual experience or observations contrary to those previously made and incorporated. This in turn constitutes a barrier to learning new skills in acculturation circumstances. (Howard, 1966, p. 271)

The contrast to alloplastic structure is *autoplastic* cognitive development, which favors learning through a set of general principles and provides more easy readjustment to new experience.

Howard argues that Fijian children are taught the specifics of behavior and are alloplastic; in contrast, the Rotumans do not usually learn behavioral specifics and are thus more autoplastic and can learn more easily and less stressfully in novel and Western-type environments.

The alloplastic–autoplastic contrast in teaching and child-rearing styles is difficult to identify in holistic cross-cultural accounts of socialization, and their connection with learning skills (e.g., Cole & Scribner, 1974) or with stress (e.g., Weisner & Abbott, 1977) is far from conclusive. The central point is not the specific validation of Howard's types, but the importance of his design—comparing the consistency between specific features of urban and modern settings to specific situational features of traditional, rural settings.

Folk Child-rearing Beliefs and Urbanization

What happens to conventional folk wisdom when the ecologic/environmental situation may no longer be functionally appropriate for such beliefs? This problem is characteristic of any rapid environmental change, but is especially important in rural-to-urban migration. It is also critical in thinking about the consequences of urbanization for parent–child relationships. Emphasis usually has been placed on showing how conventional folk wisdom meets societal needs for training and socializing children to function effectively in traditional adult societies. In addition, these child-rearing practices have been shown to be part of, to "fit with," other aspects of social and community life. A functional, role-training approach to beliefs and child training would predict rapid change in ideals and practices in urban settings.

Several aspects of folk wisdom and child rearing practices are relevant (Whiting, 1974): (1) the *availability* of such ideas and supports for women coming to cities; (2) the *fit* between city pressures and old beliefs; and (3) the opportunities to *practice* and try out child rearing as an older child or new mother.

First, what is the nature of the social support system and availability of folk wisdom for urban and for rural/traditional mothers? Perhaps urban mothers who have no clear folk wisdom or conventional child care experience available to them, regardless of its content or urban functional utility, may act in a less confident way, or experience more anxiety, than mothers who have such folk wisdom and child care support available to them.

Second, what about folk beliefs that no longer fit? Beliefs about the importance of stern and early responsibility training for children remain unsupported when there are few responsibilities for urban tasks. Beliefs about sex differences in task performance may change when such tasks are no longer required in town and when traditional sex role differences are no longer as sharply defined. Adherence to folk beliefs that are no longer functionally appropriate may be more stressful and anxiety producing for mothers and children alike.

However, any set of folk beliefs and practices may be better than none at all. There is a constant interaction between folk beliefs, support networks, and actual experience new mothers have had with babies. There probably are many parts of folk wisdom which are pancultural or universal in their relevance and clarity (Whiting, 1974), since they are based on universal maturational states. To the extent that this is true, mothers without a support system or without any folk wisdom might be more anxious than mothers with some beliefs and training, even though the traditionally-derived folk wisdom may no longer be completely relevant and appropriate. In addition, actual experience in caring for babies and young children may be better than *any* folk wisdom. Opportunities for this experience for children and adolescents may be less common in some cities, leading to less confident, more anxious mothers (and perhaps children).

STRESS AND ACCULTURATION: ECOLOGICAL DIFFERENCES

The general model in ecologic comparisons parallels that for beliefs: the greater the differences between the urban and nonurban ecology, subsistence modes, and settings, the more difficulty will be experienced in the process of acculturation or rural-to-urban migration. Again, it is not the urban settings themselves, but rather how these fit with the settings and cultures which surround them, which is the likely correlate of family stresses.

Ecological Differences: Family and Subsistence Economy

There are many ecologic variations between rural, traditional settings and cities. Those which affect the domestic group and the domestic subsistence economy and the daily routines of families appear to be the most likely candidates for affecting parents and children. Comparing the fit or consistency between city and country settings in these domains is likely to be crucial for socialization and parenting, and possibly for stress, for several reasons.

First, cross-cultural evidence indicates that differences in subsistence economy, as these in turn impinge on the domestic group and the domestic economy, are powerful predictors of general caretaking styles, caretaking practices, pressures for compliance, discipline and responsibility training, sociability, and other factors (Whiting & Whiting, 1975). If nothing else, cities and urban migration tend to alter subsistence economy patterns. To the extent that we can generalize about differences between rural and urban subsistence economies, domestic economies, and daily routines, some testable questions can be raised about the effect of cities on cross-cultural human development and socialization of children.

Variables closely related to these urban–rural differences include the availability of the father during the day, evening, and weekends; the availability of school-age versus nonschool-age children for child care; the availability of the mother during the day; the kinds of tasks and subsistence pressures on women and children alike in city versus country settings; the specific kinds of tasks that family members are asked to perform, especially the ability to perform them independently; the modes by which they are learned; sex differences in their practice and responsibility; and others. It is likely to be in the economic-subsistence domain where the clearest urban–rural differences occur and where available cross-cultural data already show powerful effects on socialization.

Second, these subsistence and daily routine variations are likely to go along with

a whole series of changes in the household and in the organization of the family. Such contrasts include the personnel present in the home and the distinction between smaller nuclear and expanded/extended family organizations. To the extent that cities contain families with a nuclear form, with fewer household members actually resident, and with a differing set of normative responsibilities for mothers and fathers within the family unit, cross-cultural research on the influence of family organization on socialization patterns again predicts effects on families and parenting. There is some indication that nuclear households tend to have lower compliance pressures; more shared and "democratic" decision making; more parent–child, especially mother–child, interaction; more verbal interaction; and increased rates of "egoistic" or seeking and requesting behaviors from children (Whiting & Whiting, 1975).

Reductions in family size, especially in the numbers of nonparental and older siblings present, alter the shared caretaking patterns characteristic of extended family settings in rural communities. Mothers have less help in child care from older siblings, who are either in formal schools part of the day or who may less often be living in the city. Weisner (1976b), for instance, found that urban migrant families with rural homes tended to keep their older children on the farm for several purposes—assisting in agricultural work, attending rural schools taught in the native tribal language, or saving the high costs of maintaining children in the city.

N. Graves (1972) looked at maternal child care beliefs and situational pressures in Uganda, using a single African ethnic group, the Baganda, in urban and rural settings. She also studied Anglos and Spanish speakers in Colorado. Graves studied a series of urban "situational constraints" (such as crowding, external dangers for small children, and others) which might account for mothers' feelings of efficacy and control. The Baganda had little direct acculturation experience with a dominant group and were in fact themselves the dominant tribal group in Uganda. Thus to some extent acculturation variables were controlled, and Graves was able to directly look at urban–rural differences by comparing rural Baganda from Masaka district with those in Kampala:

> When the results were analyzed, I found that as suspected the Baganda lower-income mothers had almost no exposure to Anglos and did not identify with them at all. Rural and Urban Baganda were no different in their norms of child rearing, but they differed strongly in the type of child they valued, in their expectations of success in getting such a child, and in their use of future-oriented techniques. In general, the more urban experience a Baganda mother had, the less control she felt and the fewer future-oriented teaching methods she employed with her children. (T. Graves & Graves, 1978, pp. 545–546)

Both Baganda and Spanish mothers complained of crowded city conditions, indoors and out, of physical dangers and bad social influences, and of urban "pleasures" which lured the fathers away from home. They were left alone to cope with the household and small children more often than in country settings, and this may have led to a "harassment" syndrome among urban mothers, since for both city and country groups the more preschool children the mother had in the home, the stronger the effects on child rearing (p. 546).

Graves' study is unusual in that it deals with the mutual effects of ethnicity, acculturation, and urban situational stressors. Unfortunately, however, there are no direct measures of maternal or child stress. Mothers who felt they had little influence

on their children's lives and fates as adults *seem* to have experienced more stress or more difficulties and anxieties as parents, but there is no direct way to tell. Graves' ethnographic and interview materials tend to suggest that the urban mothers did feel concerned and disturbed by their urban situation. Whiting (1976, p. 102) emphasizes that new anxieties and responsibilities for women fall on rural resident mothers whose husbands are away in cities as well as on women who move to the city for periods of time with their husband and young children.

Weisner (1979) found a number of clear differences between children and mothers living in Nairobi, Kenya, and in a rural horticultural area in Western Kenya. These behavioral and child care differences were related to differences in subsistence tasks and daily routines in the two locations; changes in family personnel (such as fewer older siblings); and the absence of a kin-based neighborhood organization. Urban-resident children engage in less sociable behavior than do rural children and are more often acting dominantly and aggressively toward their siblings. However, the mothers of these children were not significantly different in their reported psychophysiologic stress compared to a matched sample of rural mothers, nor were they significantly more modern as measured by the modernization scale developed by Inkeles (Weisner & Abbott, 1977). The rural comparison sample had also had considerable urban experience; thus the absence of rural–urban acculturative or stress differences in this particular sample does not reflect a comparison between widely different groups. Although there are clear behavioral changes in children's and mothers' urban and rural behaviors, these are not necessarily accompanied by significantly more reported stress.

Watson (1968) compared a group of rural, pastoral Guajiro in Venezuela to a group of Guajiro who had spent most or all of their lives in Maracaibo, the capital city. Watson's study represents one of the most detailed studies of socialization and child training comparing rural and urban populations. The traditional socialization complex of the Guajiro includes severe socialization of (1) obedience-compliance, (2) responsibility, (3) vulnerability-dependence, (4) peer- and parent-directed aggression, and (5) low parental warmth (Watson, 1968, p. 79).

Rural Guajiro raise livestock and have minor horticultural and wage work supplements to their pastoral subsistence economy. Urban Guajiro in Watson's sample live in a crowded, low-income barrio occupied largely by Guajiro migrants. Conjugal families subsist on a man's wage earnings, which are often not regular and which take men away from the barrio for extended periods of time for wage labor. Few women are employed, and the father-absent mother–child domestic unit is common in the urban barrio (Watson, 1968, pp. 118–119). Watson lists factors which distinguish urban from rural Guajiro life and which are critical to differences in socialization practices: (1) competitive wage labor replaces pastoralism; (2) urban parents are powerless to control economic resources; (3) there is "disintegration" (p. 131) of the corporate descent group and of interlineage relationships; (4) the conjugal and mother–child family replaces a traditional matrilocal extended family; (5) the mother's economic contribution to the urban family is unimportant compared to that of other family members; (6) bride-payment in cattle disappears in the city; (7) rigid socioeconomic distinctions characteristic of rural life disappear in more egalitarian urban society; and (8) formal education replaces acquisition of cattle or kinship status as a mode of achievement (pp. 129–136).

Each of these characteristics, Watson suggests, has specific effects on the socialization pressures on boys and girls. For example, Watson argues that a mother who no longer made important economic contributions to the home "would be less effective in socializing obedience-compliance and parent-directed aggression because of her inability to invoke strong economic sanctions" (p. 134). Among rural pastoral Guajiro, maintenance and care of the family herds by children is a very important responsibility. Since the family as a unit no longer controls property, there is less parental pressure to train children to be responsible and diligent in task performance. "Training the girl in domestic skills, however, represents something of an exception to this, since it constitutes a direct preparation in many individual cases for the role in life which will eventually be assumed, as in tribal culture" (p. 135).

Watson did not measure or comment on the stressful or anxiety-producing consequences of these urban–rural differences, although he suggests that the life of the urban mother and child is made more difficult because of the wide gap between urban and rural subsistence and family patterns. As in Weisner's and Graves' work, Watson did identify a number of differences in children's behaviors and personality indicators in comparing his rural and urban samples.

Stress, Acculturation, and Ecological Differences

The rural–urban comparisons which emphasize the relative contrast between city and country usually have not measured stress reports directly. Berry and Annis (1974) and Berry (1976), in a series of studies, have compared ecology, acculturation, and stress measures in a number of societies. Although not focused directly on child rearing and children, this work provides further support for the hypothesis that it is the fit between rural and urban settings, and the degree of contrast between them, that is most directly related to familial stress. Berry suggests that acculturative stress experienced by individuals varies as a function of the traditional cultures which characterize a community and as a function of acculturative influences. The greater the disparity in culture and behavior between the two, traditional and modern, the greater will be the stress.

For example, Berry suggests that low-food-accumulation societies will experience more stress than will high-food-accumulation societies. Berry and Annis emphasize food accumulation because low-food-accumulating societies also have low population density and small settlement units and are often migratory, while high-food-accumulating societies are agriculturalists, have higher densities and larger settlement units, and are sedentary (p. 386). There is usually more social stratification evident in the high-food-accumulating societies as well. Achievement, self-reliance, and independence or assertion training appear more important for low-food-accumulating societies, whereas responsibility and compliance appear more important for high-food-accumulation societies (Barry, Child, & Bacon, 1959). Ecological characteristics of the traditional habitats, with fewer similarities to more modern or town settings, should produce more stress. On the side of the more modern, contact culture, Berry emphasizes the density, employment, education, and "urban factors" which characterize the acculturative setting.

Berry defines acculturative stress to relate specifically to culture contact between groups and to refer specifically to affective states or behaviors relating to mental health. Berry and Annis operationalize acculturative stress by using a 20-item psychosomatic checklist for stress, a scale of cultural marginality, and a scale of deviance.

Berry (1976) reviews all of these relationships for a sample of over 40 individuals in each of a widely differing group of native American cultures. Generally, each of

the hypotheses was supported: what Berry calls "loose" societies—those based on low food accumulation, hunting, migratory or mobile settlement patterns, and relatively unstratified, egalitarian forms of social organization—had higher stress scores under conditions of Western acculturation and urbanization than did the contrasting "tight" societies. Individuals with more Western education reported fewer stress symptoms than did those with less education, but this effect was true within culture samples more than across the samples. Berry (1976) suggests that "there may be a curvilinear relationship between education in particular (and acculturation level more generally) and the experience of acculturative stress" (p. 190). The level of acculturation of Berry's samples was negatively related to reported stress—that is, at the individual level, more acculturated respondents reported fewer stress symptoms. At the group or cultural level, however, where acculturative influences and ecocultural variations could be directly pitted against each other, the ecocultural variable (loose versus tight societal type) was more strongly related to stress levels.

Finally, Berry's data indicate that individuals with higher scores on measures of psychological differentiation reported fewer stress symptoms across all the societies where both stress and differentiation were tested. He suggests that one intervening variable influencing the stress experienced during acculturation and urbanization is the degree of "psychological differentiation" and field independence. Differentiation is hypothesized by Berry to be related to increase in cultural complexity and has perceptual, cognitive, social functioning, and affective components. Although there are many problems in measuring and conceptualizing psychological differentiation cross-culturally, there does appear to be some relationships between individuals scoring higher on differentiation tests and lower stress reports.

Berry's hypotheses suggest some testable predictions for urban-rural studies of stress and acculturation. Children in urban settings, for example, who are relatively high on scores of field independence and psychological differentiation should experience less stress across different urbanizing and acculturating situations than children who are more field dependent. The traditional cultures of origin as well as the urban setting could be ranked and compared on the relative difference score between the two settings. The more similar the two settings are, the less children's field independence or dependence should matter. In addition, traditional cultures may differ in their pressure toward field independence or dependence, and the relative acculturative stress should be measurable in these environments as well. If urban settings generally promote field independence (for which there is some evidence), children who have lived in cities longer should, on these grounds alone, show less acculturative stress. However, this relationship will be mediated through the *parents'* stress level. Parents migrating to an urban center who are (relatively) field dependent, where there is a large gap between urban and rural settings, may socialize and train their children differentially regardless of the child's own field dependence or independence. Relationships here are complex, and there are really no data available at the present to disentangle all the relevant factors involved.

Berry (1976, p. 192–193) and Chance (1965) both find women generally reporting higher psychophysiologic stress symptoms than men, but the sex differences interact with the ecological level of the culture. Women in Berry's "loose" hunting and migratory societies with little social stratification are only slightly more likely to report higher stress symptoms than men, whereas women in the "tight," more highly stratified horticultural societies show much greater differences than men. These data indicate that social role expectations and the culturally defined status of women play

an important role in creating stress in women. Since women in Western societies also generally report more stress symptoms than men, there is evidence here for both cultural-ecologic and pancultural sex differences in stress during periods of social change, including urbanization.

These sex differences in reports of stress might also be due to differences in styles of self-disclosure. Women may be more willing to "admit" that they are feeling anxious, or have trouble sleeping, or sometimes sweat or tremble in difficult situations. Women (or men) able to talk about these stress-related symptoms may be less likely to suffer from them as much as someone with similar symptoms who must continually deny them to others. One paradoxic result of this line of argument is that men or women who are able to state that they do indeed have these symptoms, although scoring higher on an overall measure of stress, may in fact suffer less, since they are able to talk about them with others. Mothers able to talk with others about their children's and their own parenting problems certainly experience relief in the sharing and exchange of folk wisdom which results. This entire area of the meaning of stress report scores as a measure is considered in the next section; these speculative comments on the interpretation of sex differences in reports remain for further research to disentangle.

SUMMARY

The focus in this section has been on comparative work which looked at stress reports in terms of the consistency between traditional and acculturating (including urban) settings. The general pattern of findings indicates that the greater the differences between traditional and acculturative settings, the higher the reported psychophysiologic stress tends to be. Some of the global cross-cultural factors likely to influence stress responses during acculturation in urban settings include the ecologic and subsistence modes of the traditional cultural environment (those more different from urban settings produce more stress); global measures of psychological differentiation (more differentiated individuals possibly are more adaptive to stressful settings); levels of acculturation and education (generally a small, negative relationship between reported stress and these variables); and the *relative* degree of acculturation or stress within a given ecologic level (not the absolute level).

CONCLUSIONS: DIRECTIONS FOR FUTURE RESEARCH

Cross-cultural Measures of Stress

The reliance on the one-time, self-report psychophysiologic stress questionnaire in comparative work, and the few alternative field measures available in a form for relatively easy use, is startling. This may be a credit to the clarity, ease of use, and face validity of such items and such a technique, but serious questions as to its validity and usefulness as a measure of stable characteristics persist. Kennedy (1973, pp. 1121–1134) reviews cross-cultural epidemiologic research methods and instruments, many of which use a version of a stress measure. His review is a litany of the potential sources of bias and error in the field. Kennedy concludes by suggesting that "the best approaches will combine the intensive long-term techniques of anthropological observations of groups with the clinical methods of psychiatry" (p. 1185). He also advocates longitudinal work, studies of folk views of disorder, and the use of "culture-free" biochemical or other physiologic measures for purposes of diagnosis.

The psychophysiologic self-report instruments have an important use, and the evidence is fairly good that the methodologic problems are balanced by some pancultural validity in items, but additional, alternative measures of stress among adults and children in cross-cultural research must be developed. As Berry and Inkeles both point out, it may well be true that methods sufficient for cultural-level comparisons using aggregate data may not be usable for intracultural, individual-level data used for inferring stable characteristics in longitudinal studies of a community. However this may be resolved, comparative work on stress and stressors in families must be based on more and improved measures.

Abbott (1977) has looked at the Health Opinion Survey psychosomatic items for sex differences in responses. Surprisingly little work in item analysis has been done on the HOS. Abbott's preliminary work indicates that 13 of 20 items from her sample of Kikuyu men and women do differ by sex. Women tend to report that they are bothered by items related to feelings of depression or hysteria, such as "Don't feel healthy enough to carry out things I want to do," "Trouble sleeping," "Shaky hands," and "Sometimes wonders if anything is worthwhile." Men's frequent items were more related to anxiety with some hysterical and hypochondriacal items as well, such as "tends to feel tired in the morning," "Feels in poor spirits," and "Has trouble breathing when not exerting self." Abbott attempts to relate these different responses to the social pressures men and women are experiencing in rural Kikuyuland. This type of search for specific social situations likely to produce specific kinds of stress-related responses is an important step in both validating and "contextualizing" self-report measures like the HOS.

Howard and Scott's (1965) framework for conceptualizing stress as the product of microadaptation to specific life problems in defined sociocultural settings is a valuable definition for naturalistic studies of stress, but one which has not as yet led to effective measures of different types of adaptation or the resultant problem-solving stress experienced. The study of the personal experiences of specific settings within which parents and children live in cities, and the adaptive problems faced, is a vital next task for the cross-cultural study of stress and urbanization.

Direct Rural–Urban Comparisons of Socialization

Inkeles could not find features of cities which were associated with differences in stress reports. It is no less difficult to find urban–rural situational differences in child-rearing patterns, since there are so few studies which directly compare child rearing and stress in rural and urban settings. The need for a better understanding of just how children and parents differ in matched city and country settings is as great as the need for better measures of stress.

The linkage between urban settings, acculturation and ethnicity, on the one hand, and the specifics of child rearing and mothers' and children's attitudes and feelings, on the other, is very complex. Ethnic homogeneity and rural–urban attachments neutralized stress reports in the Kenya rural–urban study of Weisner, although there were clear changes in children's and mother's social behaviors. Howard (1974) showed specific effects of intraurban variations in Hawaiian-American families in stress reports, but these differ for men and women and are influenced by socioeconomic status. Graves' work is the most detailed and careful in showing the interaction of ethnicity (Spanish-American versus Anglo versus Baganda), levels of acculturation, and urban experience, but the outcomes for measures such as mothers' feelings of efficacy in urban settings and mothers' beliefs about their abilities to

control their environment and their children's development are not consistently affected by city life. Hence urban "situational factors" clearly play a role in affecting mothers' and children's feelings and behaviors, but the direction of the effect and its strength cannot be predicted using city residence alone.

Folk and Child Experience of Urban Settings

A central issue in cross-cultural research (certainly such research in anthropology) is the relevance of the individual's own perception of a situation. In the case of a child in a city, urban social-ecologic experiences are filtered through the family; through a larger network within which the family is embedded in the neighborhood and community; and through formal institutions, most preeminently public schools. This methodologic and theoretical orientation in cross-cultural work in anthropology raises at the most fundamental level our perceptions of what cities, as an ecologic, cross-cultural unit, are like in the sense of how they are perceived and lived in by children.

Sociology tells us that cities are dense, complex, heterogeneous, and very large in both size and numbers. Secondary consequences of these physical and population traits of cities may include feelings of isolation and individuation, loss of a multiplex relationship network and such a network's replacement with a series of autonomous, individualized dyadic interactions with strangers, an increased feeling of cosmopolitanism, etc. Looking at the city from the point of view of a maturing child casts serious doubt on the conventional wisdom of what cities are supposed to be like and what influences they are supposed to have. Much research on cities has been designed to study the consequences of size, density, complexity, heterogeneity, and so forth, with their presumed effects on family life, or stress, or acculturation, or whatever. This *ecologic* definition of cities' effects may itself be a variable and may be seriously called into question when we look at the effects of cities on children, taking the *child's* point of view. From a child's point of view, cities may be homogenous socially, may be quiet, may be relatively less complex and elaborate in demands than the rural setting (or at least have qualitatively different sets of demands), and may be no "larger" in appearance or size than many rural or traditional areas. Cities, suburbs, and rural areas are not uniform and may well not provide the ecologic stimulation cities are supposed to encourage. Thus one question raised in this review is, How are the details of city life actually perceived and experienced by children? The very limited available evidence suggests that when education, income differences, and other confounding influences are removed, cities can have familial and ecologic consequences on children running the range from "rural" to the "urban" ends of the ideal ecologic continuum. Thus it is an empirical question whether or not "size, complexity, and heterogeneity" even exist in the child's world. This empirical and descriptive issue must be considered before considering the question of the influence of "urban" environmental features or stress in children.

Future work on city life, children, and stress should focus on the relative contribution of urban situational factors in the context of these other, highly related variables. In addition, urban studies in cross-cultural settings should return to some of the central issues which have been important in cross-cultural work in human development in traditional societies: close naturalistic description of the actual urban situation children and their parents find themselves in; the role of folk beliefs and folk wisdom in integrating attitudes and practices of child rearing; and the role of cities in altering the subsistence mode of the family and the personnel available to

e for and shape children. The importance of these issues in other cross-cultural
udies of socialization, the clear evidence for the influence of acculturation and folk
liefs interacting with urban situational effects, and the absence of uniform, pancul-
al urban influences on stress suggest a reduction in large-scale survey work on
ess and cities and an increase in intensive, naturalistic, contextual studies of the
nily and stress in urban settings.

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