

CRITICAL PERSON-IN-ENVIRONMENT TRANSITIONS ACROSS THE LIFE SPAN

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Based on elements of sensory-tonic field theory and perceptual development (Werner & Wapner, 1952), organismic-developmental theory and symbol formation (Werner & Kaplan, 1963), the integration of sensory-tonic and organismic-developmental theory (Wapner & Cirillo, 1973), and an organismic-developmental approach to environmental psychology (Wapner, Kaplan, & Cohen, 1973), our current elaborated research program has focused on what we have termed "critical person-in-environment transitions across the life span." Because of our strong belief in the interrelations among problem, theory, method, and practice (e.g., see Wapner & Demick, 2000a) whereby one's theoretical orientation determines, at least in part, what one studies (problem), how one studies it (method), and if and how one chooses to intervene (practice), this exposition of that program will include, respectively, discussion of:

- (a) the rationale behind our chosen paradigmatic problem (including definition of terminology);
- (b) some selected theoretical assumptions that underlie our approach to transitions;
- (c) our views on methodology; and
- (d) the implication of our work for both intervention studies and the practice of clinical psychology.

Wherever appropriate, reference to and/or description of empirical studies will be provided.

DEFINITION OF PROBLEM

There are several implicit assumptions in our stating the problem as “critical person-in-environment transitions across the life span” (cf. interrelations among problem, theory, method, and practice). Usage of the term “person-in-environment” implies the very general idea that the person-in-environment system is the unit of analysis. Thus, we insist that any analysis treating the person independent of an environmental context is incomplete and non-representative; that is, a person does not exist independent of an environmental (whether physical, interpersonal, or sociocultural) context (see: Wapner & Demick, in press, on the increasing context of context in environmental psychology; Wapner & Demick, 1998, 1999, in developmental psychology; and Wapner & Demick, 2000-b, in personality psychology).

Usage of the term “critical” is also of significance. Critical transitions of the person-in-environment system—linked to a powerful perturbation to any aspect of the person, of the environment, or to their interrelations—occur at every stage of the life cycle. Since what is critical for one individual is not necessarily critical for another, it is emphasized that “critical” is experientially defined (foreshadowing the need to complement traditional quantitative methodologies with more qualitative ones). For example, such critical transitions include: the child entering nursery school; the freshman entering college; the individual taking on his or her first full-time job; the person getting married or having children or getting divorced or getting remarried; the migrant or newcomer; the sudden onset of an earthquake or hurricane; the person becoming a retiree; or the older adult entering a nursing home. One focus of our work is to assess similarities and differences across all person-in-environment transitions (e.g., in what ways is the transition of migration like the transition to retirement or the transition from home to nursery school?) as well as to delineate the extent to which each is unique and requires differential processes on the part of the individual undergoing the transition.

While every moment of our lives involves change, our concern is for those critical transitions where a perturbation to the person-in-environment system is *experienced* as so potent that the ongoing modes of transacting with the physical, interpersonal, and socio-cultural features of the environment no longer suffice. Such transitions are of great significance since they may represent the occasion for regressive change or progressive development. A critical transition making for regressive change is evidenced, for example, when an older person entering a nursing home shows severely aggressive behavior toward his or her spouse and/or children and reports feelings of fright, withdrawal, abandonment, depression, disorientation in space and time, and loss of control not shown prior to the

transition. In contrast, there are many critical or dramatic person-in-environment changes that make for progressive development. Consider, for example, the development that occurs when a student leaves home and enters college. In the context of this transition that involves the independence required to live away from home, the adolescent advances not only academically but emotionally and socially as well. In a recent paper on the application of our approach to the more general study of adult development, we (Wapner & Demick, in press-a) have delineated the goals of the various stages of adulthood, which for some may constitute critical person-in-environment transitions. These goals are presented in Table 1.

While we ordinarily focus on transitions that involve some perturbation to the person-in-environment system, researchers in the general area (e.g., Schlossberg, 1984) have pointed to transitions that involve "... changes (such as the loss of career aspirations and non-occurrence of anticipated events, such as an expected job promotion that never comes through)" as well as "... obvious life changes (such as high school graduation, job entry, marriage, birth of first child, bereavement)" (p. 43). These she refers to, respectively, as non-event and event transitions. However, given our espoused reliance on dynamic (part-whole) analyses (below), we prefer to characterize transitions in another way. For example, in the nursery school transition, there is a shift from living in one world (home) to living alternatively in two (nursery school, home) and, hence, there is a challenge to person-in-environment reorganization by *addition*. In contrast, in the transition from high school to college, in relocation of a psychiatric therapeutic community, and in migration/return migration between the United States mainland and Puerto Rico, there is a shift from one world (e.g., college, another hospital setting, U.S. mainland and Puerto Rico) to another. Thus, there is a challenge to reorganization by *substitution*. Further, in transitions such as retirement, there is a shift from living in two or more worlds (work and home in which the latter consists of family, friends, recreation, etc.) to leaving the work world and living in the others only. Therefore, there is a challenge to reorganization by *removal or elimination* of one world.

There are other ways that our approach to critical transitions differs from those of other contemporary researchers. First, much recent research (e.g., Blair, 2000; Pancer, Pratt, Hunsberger, & Gallant, 2000) has focused on aspects (e.g., cognitive expectations) of a particular transition (e.g., transition to first full-time job, transition to parenthood, respectively) and has neither considered the processes underlying the transition in a holistic manner (e.g., interrelations among cognition, affect, valuation, and action over the course of the transition) nor the similarities and/or differences across different transitions. That is, relatively few investigators have provided a theoretical framework such as ours for the examination of critical transitions more generally. Second, within developmental psychology, researchers (e.g., Graber & Brooks-Gunn, 1996) have highlighted the notion that the few current models have been specific to particular transition points (e.g., pubertal development), but that "... to understand which individuals are affected by transitions and

TABLE 1. Some tasks or goals to be fulfilled at different periods during the course of human development with respect to various aspects of the person-in-environment system

Category	Tasks or Goals
PERSON	
Physical/Biological	18–35 years: Optimal Physical Development; desire for physical fitness; fulfillment of sexual desires 35–60 years: Coping with and adjusting to decreasing physical strength and physical changes of middle age 60 years and on: Continued coping with physical changes
Psychological/ Conceptual	18–35 years: Develop and maximize cognitive (sensorimotor, perceptual, skills; affective functions; appropriate values; develop independence; self concept; self-esteem; self control; self-efficacy; self identity; cope with mid-life crises; objectivity; individually oriented dignity; sense of security; develop and work toward occupational goals; find life work 35–60 years: Develop leisure time activities
Sociocultural	18–35 years: Marriage; parenthood; serving as wife and mother; managing a home and family; household provider; getting started in an occupation and achieving success; optimizing relation between work and home worlds 35–60 years: Grandparenting; coping with possible divorce; adjusting to remarriage; step parenting; caring for aging parents 60 years and on: Disengagement from work; retirement; care for aging parents; coping with possible loss of partner
ENVIRONMENT	
Physical	18–35 years: Leave home and establish satisfactory physical living arrangements; adapt to physical location and nature of physical work place
Interpersonal	18–35 years: Seek affiliation; social support; social network; attachment; friendship love; emotional bonds; select a mate; intimacy with others; develop an optimal spousal relationship; start family; childbirth; raising children and possibly step-children; possibility of coping with divorce; develop social milieu 35–60 years: Coping with empty nest 60 years and on: Find a comfortable social network; adjust to loss of one's significant other; establishing an explicit affiliate relationship with one's age group; coping with social interaction that declines in older age groups
Sociocultural	18–35 years: Develop educationally; develop social networks that conform to cultural setting; adopt civic and societal responsibility; adhere to societal rules and regulations; getting started in an occupation 35–60 years: Achieve adult and societal responsibility

how transitions are navigated, more specific models are needed" (p. 768). Thus, our approach to critical person-in-environment transitions across the life span—which consists of a general developmental psychology complemented by a differential psychology (below)—may begin to fill in the gap.

Underlying Assumptions Shaping Empirical Problems

On the most general level, our approach is:

1. *holistic* insofar as we assume that the person-in-environment system is an integrated system, whose parts may be considered in relation to the functioning whole;
2. *developmental* insofar as we assume that progression and regression may be assessed against the ideal of development embodied in the *orthogenetic principle* (change from dedifferentiated to differentiated and hierarchically integrated person-in-environment functioning) and that development encompasses not only *ontogenesis*, but additional processes such as *phylogenesis* (e.g., adaptation manifest by different species), *microgenesis* (e.g., development of a percept or idea), *pathogenesis* (e.g., development of both functional and organic pathology), and *ethnogenesis* (e.g., changes during the history of humankind); and
3. *systems-oriented* insofar as we assume that the person-in-environment system is the unit of analysis, which includes three aspects of the *person* (*biological*, e.g., health; *intra-psychological*, e.g., stress; *sociocultural*, role) and three analogous aspects of the *environment* (*physical*, e.g., natural or built; *inter-organismic*, e.g., friends, relatives, pets; *sociocultural*, e.g., rules, laws of society).

Corollary notions include the assumptions of:

4. *transactionalism* (the person and the environment mutually define, and cannot be considered independent of, one another; similarly, the person-in-environment system's experience—consisting of cognitive, affective, and valuative processes—and action are inseparable and operate contemporaneously under normal conditions);
5. *multiple modes of analysis* including *structural analysis* (part-whole relations) and *dynamic analysis* (means-ends relationships);
6. *constructivism* (the person-in-environment system actively constructs or construes his or her experience of the environment);
7. *multiple intentionality* (the person-in-environment system adopts different intentions with respect to self-world relations, i.e., toward self or world-out-there);
8. *directedness and planning* (the person-in-environment system is directed toward both long- and short-term goals related to the capacity to plan);
9. *multiple worlds* (the person-in-environment system operates in different spheres of existence, e.g., home, work, recreation); and
10. preference for *process rather than achievement* analysis.

Toward demonstrating the ways in which these assumptions help us frame empirical problems on critical person-in-environment transitions across the life span, a basic overarching framework followed by examples of empirical work at

each level of analysis is now presented. Specifically, from our point of view, a critical transition may be initiated whenever there is a perturbation to any aspect of the person-in-environment system at any level of integration. That is, a perturbation may occur at the biological, intra-psychological, and/or sociocultural level of the person and/or at the physical, interpersonal, and/or sociocultural level of the environment. In line with our assumptions, we have characteristically examined the ways in which a perturbation at any given site impacts the site itself, the other sites, and the system as a whole. While Table 2 presents the array of transition studies that we have considered and/or conducted, we now present a brief synopsis of one study initiated at each site of the person-in-environment relationship (see Wapner & Demick, 1998, for a comprehensive review of all studies at all sites).

Biological Aspect of Person

Collazo (1985) conducted an investigation that examined the transition from health to illness as manifest in the onset of diabetes. He analyzed a number of relations between the focal person (self) and other parts of the person-in-environment system including: (a) the relations between one's psychological and biological self as influenced by changes in the metabolism of sugar; (b) transactions with physical aspects of the environment (e.g., unwillingness to move beyond the physical confines of the home community related to concern for the availability of insulin supplies); (c) the relations with the interpersonal aspects of the environment (e.g., dependence on others, fear of getting married; and (d) the relations to the socio-cultural context (e.g., changes in the behavior and values of the individual related to culturally defined attitudes toward the sick). See Wapner and Demick (1998) for a more complete description.

Intra-Psychological Aspect of Person

Here, we (e.g., Demick & Wapner, 1980; Demick, Peicott, & Wapner, 1985) have conducted a series of longitudinal studies on the development of psychopathology (e.g., alcoholism, schizophrenia, antisocial personality) and the ways in which such pathology impacts the person-in-environment system over the course of psychiatric hospitalization. As we have noted, alcoholics, prior to treatment, manifest rigid, differentiated boundaries between self and environment with an over-focusing on the environment at the expense of on self. This is in line with the theoretical conceptualization of self-environment differentiation first proposed by Werner (1940/1957). This conceptualization has most commonly been applied to schizophrenia. For instance, various investigators (e.g., Des Lauriers, 1962) have speculated that the schizophrenics' loss of boundaries (e.g., failure to separate self from environment) is the fundamental defect of this disorder. Further, we assume that the optimal relationship of the person-in-environment state is indicated by the person's ability to shift back and forth from focusing on different objects of experience, namely, on the self, on the environment, and on self-environment relations. Deviations from this optimal condition (i.e., shifts exclusively from a self-focus to an environment-focus or conversely from an environment- to a self-focus) are considered to represent

TABLE 2. Sites and examples of perturbations to person-in-environment system which may initiate critical transitions¹

PERSON (× ENVIRONMENT)	ENVIRONMENT (× PERSON)
<i>PHYSICAL (BIOLOGICAL)</i>	<i>PHYSICAL</i>
Age (e.g., onset of puberty, menopause, death)	<i>Objects</i> (e.g., <i>Acquisition or loss of cherished possessions</i>)
<i>Pregnancy</i>	<i>Disaster</i> (e.g., <i>onset of flood, hurricane, earthquake, tornado, volcanic eruption, nuclear war</i>)
Disability	<i>Relocation</i> (e.g., <i>psychiatric community, nursing home, rural, urban, transfer to new college, migration</i>)
<i>Illness</i>	<i>Urban Change</i> (e.g., <i>decline, renewal</i>)
- <i>Addiction</i> (e.g., <i>onset and termination of alcoholism, obesity, drug addiction</i>)	<i>Rural Change</i> (e.g., <i>industrialization</i>)
- <i>Chronic</i> (e.g., <i>onset of diabetes, rheumatoid arthritis</i>)	
- <i>Acute</i> (e.g., <i>onset and treatment of cancer, AIDS</i>)	<i>INTERPERSONAL</i>
	<i>Peer Relations</i> (e.g., <i>making or dissolving a friendship or social network, falling in or out of love</i>)
<i>PSYCHOLOGICAL</i>	<i>Family</i> (e.g., <i>change in extended family, immediate family, parents, relatives</i>)
<i>Body Experience</i> (e.g., <i>increase or decrease in size of body, onset of experience of positive or negative body evaluation, acquisition or loss of cherished possessions</i>)	<i>Neighbors</i>
<i>Self Experience</i> (e.g., <i>self concept and experience of control, dignity, identity, power, security as in onset of or recovery from mental illness, changing role in social network</i>)	<i>Co-workers</i>
	<i>Roommates</i>
	<i>Teachers</i>
<i>SOCIO-CULTURAL</i>	<i>SOCIO-CULTURAL</i>
<i>Role</i>	<i>Economics</i> (e.g., <i>new technology, job opportunity</i>)
- <i>Work</i> (e.g., <i>becoming employed, temporarily employed, unemployed, retired</i>)	<i>Educational</i> (e.g., <i>nursery school, kindergarten, elementary school, high school, college, sojourn to university abroad, graduate or professional school</i>)
- <i>Financial</i> (e.g., <i>becoming rich as in winning lottery, becoming poor as in stock market crash</i>)	<i>Legal</i> (e.g., <i>abortion legislation, driving age, automobile seat belt legislation, child abuse, retirement legislation, euthanasia</i>)
- <i>Educational</i> (e.g., <i>Professor, students administrator</i>)	<i>Mores</i> (e.g., <i>attitude toward sex</i>)
- <i>Marital</i> (e.g., <i>being married, divorced, widowed, parenthood, adoption</i>)	<i>Political</i> (e.g., <i>social, country, prison, defection</i>)
- <i>Religious</i> (e.g., <i>becoming priest, minister, rabbi, nun, Jesuit, "Born Again" Christian, conversion</i>)	<i>Religious</i> (e.g., <i>oppression, change in policy re female ministers and rabbis, celibacy of priests</i>)
- <i>Political</i> (e.g., <i>becoming a refugee, undercover agent, war veteran, holocaust survivor, survivor of terrorism, elected official</i>)	<i>Organizational (Industry) Leadership</i>
- <i>Cultural</i> (e.g., <i>becoming a celebrity, member of your cult group</i>)	
<i>Ethnicity</i> (e.g., <i>becoming aware, proud of, ashamed of background</i>)	
<i>Gender</i> (e.g., <i>changing sexual orientation, from justice to caring orientation</i>)	

¹ Italicized items indicate published studies or studies in progress.
 SOURCE: Wapner, S., & Demick, J. (1998). Developmental analysis: A holistic, developmental, systems-oriented perspective. In W. Damon (Series Ed.) & R. M. Lerner (Vol. Ed.), *Handbook of child psychology: Vol. 1. Theoretical models of human development* (5th ed., pp. 761–805). New York: Wiley.

examples of *regression*. Moving then toward optimal self-world relations may be considered to represent *progression*.

Sociocultural Aspect of Person

Adoption—and specifically, the transition to adoptive parenthood—has been studied extensively by Demick and his associates (e.g., Aronson, Ronayne, Hayaki, & Demick, 1994; Demick, 1993; Demick & Wapner, 1988b; DiLallo, Pinet, Lamb, & Demick, 2001; Silverstein & Demick, 1994; Soparkar, Demick, Levin, & Wapner, 1988). One way in which these investigators have approached the problem was to explore differences between two transitions, namely, that of open versus closed adoption (communication vs. no communication between biological and adoptive parents). Of particular interest is the following complex of issues:

... adoptive families characterized by a total separation between the adopted child and his or her family of origin—as is usually the case in traditional, closed adoption—may be conceptualized as *dedifferentiated* (all members of the family either consciously or unconsciously deny that the child has been adopted), *differentiated and isolated* (adoptive parents shelter the adoptee so that he or she will not learn about the biological parents from others and/or will not have to deal with the stigma of being adopted), or *differentiated and in conflict* (the adoptee may fantasize that the biological parents would treat him or her differently and/or may threaten to leave the adoptive family to find the “real parents” when of age). In contrast, the adoptive family characterized by less absolute separation between the adoptee and his or her family of origin (the case of open adoption) may be conceptualized as *differentiated and integrated* (the adoptee may be able to integrate the various aspects of his or her dual identities, possibly mitigating potential problems with identity and self-esteem; in a similar manner, the adoptive parents may be able to integrate the different aspects of the adoptee’s identity so as to avoid blaming “bad blood in the background” for any of their difficulties. (Demick and Wapner, 1988b, pp. 241–242)

Paralleling this conceptualization of developmentally-ordered self-world relationships are correlative modes of coping (also developmentally-ordered) as follow (cf. Apter, 1976): *dedifferentiated person-in-environment (P-in-E) system states* characteristically employ *passive accommodation* (whereby the individual passively goes along with environmental demands); *differentiated and isolated P-in-E states*, *disengagement* (whereby the individual withdraws and removes self from environment); *differentiated and conflicted P-in-E system states*, *nonconstructive ventilation* (in which the person maintains conflicted relations with aspects of the environment); and *differentiated and integrated P-in-E system states*, *constructive assertion* (in which the person takes positive constructive action vis-à-vis aspects of the environment). These modes of coping, along with other person-in-environment processes such as planning represent aspects of our process analysis that complement our formal typology of person-in-environment relations.

Physical Aspect of Environment

Wapner (1983) has treated the problem of living with radical disruptions of person-in-environment systems induced by *natural disasters* such as floods, earthquakes, hurricanes, tornadoes, volcanic eruptions, and nuclear war. He has included an analysis of the disaster cycle with respect to five phases: (a) disastrous event remote (anticipating disaster); (b) disastrous event imminent (warning); (c) impact (system shock); (d) soon after impact; and (e) later on after impact (reconstruction and aftermath). In line with this analysis, an empirical study was conducted on the impact of the 1992 Hurricane Andrew on a Bahamian person-in-environment system. The study provided support for our developmental conceptualization. That is, with Warning of the Disaster, individuals show evidence conforming to the *dedifferentiated person-in-environment system state* insofar as they exhibit wishful thinking involved in the denial of danger, greater dependence on authority figures, and egocentricity. There were others during the Warning of the Disaster who conformed to the *differentiated and isolated person-in-environment system state*; some indicated that they could not do anything about the storm and others withdrew by action (e.g., locked self in rooms, locked self in church). Still others conformed to the *differentiated and in conflict person-in-environment system state* insofar as they exhibited rebelliousness to authority as evidenced by blaming authorities for not warning properly. There was little evidence at this Warning of the Disaster stage of the differentiated and hierarchically integrated mode of coping, as expressed by one respondent, a youth minister who stated, "I tried to get my situation right. I made sure my house was battened up . . . and then I went out to help some elderly . . . you have to have a plan." (Chea & Wapner, 1995, p. 90).

Interpersonal Aspect of Environment

Here, Roelke (1989, Thomason, 1985) has studied the nature and the development of friendships. Utilizing such dimensions as similarities between self and other, dealing with conflicts and disagreements, and self-disclosure (information shared), she has found that, with increasing interdependence (as obtains over the course of friendship development), there was an increase in the differentiation and integration of the parts (self, other) that constituted the friendship relationship as well as an increase in the flexibility of the friendship experience. In a follow-up study, she has also found that friendships can be categorized developmentally in terms of the orthogenetic principle, as follows:

1. *focused friendship experience*, which she characterized as undifferentiated insofar as the friend is primarily involved in only one sphere of existence;
2. *enmeshed friendship experience*, which she described as differentiated and overlapping since the friend is involved in *all* spheres of existence;
3. *segmented friendship experience* in which the relationship is differentiated and isolated since the friend is involved in several isolated spheres, some of which are more important to the friendship than are others; and

4. *differentiated and integrated friendship experience* whereby the friendship involves a number of interconnected, shared spheres of existence, some of which are more important in the relationship than are others.

In line with this, Roelke (1993) has also identified processes underlying friendship development. For example, she has noted that: it is the individual's active construal of his or her friendships that is the significant unit of analysis from an experiential perspective. It is important to emphasize that the focus of this particular study is on the individual's cognitive construction of the friendship, and not an analysis of interaction at the dyadic level. Not only does the individual's construal of the friendship provide the best window on the meaning of the friendship in the person's life, but our constructions also help to shape actual interactions with our friends as well as the course of the relationship as a whole (Duck & Sants, 1983, p. 122).

Further, she has identified six social support functions that underlie friendship development. These functions have included: social integration; contribution to self-esteem; opportunity to provide nurturance; assistance; emotional closeness; and stability/reliability. Ratings on these functions have revealed that all are low for non-close friendships. For close relationships, emotional closeness and stability/reliability received significantly higher ratings, while more intimate functions (opportunity to provide nurturance, emotional closeness, stability/reliability) were rated as particularly important in differentiated and integrated friendship relationships.

Sociocultural Aspect of Environment

We have conducted a series of studies on automobile safety belt experience prior to and following the initiation of mandatory safety belt legislation in Japan (Hiroshima) and in the United States (Massachusetts). As Demick, Inoue, Wapner, Ishii, Minami, Nishiyama, and Yamamoto (1992) have documented, in the context of the highway, the observed rates are significantly higher in Hiroshima on all occasions—possibly related to stricter enforcement in Hiroshima relative to Massachusetts. However, in the city, the rates are significantly higher in Massachusetts only 2 months after legislation. This may be related to the fact that, on this occasion, safety belt use was enforced on both the highway and in the city in Massachusetts, whereas only on the highway in Hiroshima.

However, once safety belt use began to be enforced in the city 1 year later, Hiroshima rates skyrocketed to an astounding 91% in the city and an equally astounding 98% on the highway. In both sociocultural contexts, there is an increase in drivers' use of safety belts on the highway from the test occasion immediately following legislation. However, although the rates begin to level off and remain constant or further increase in Hiroshima, they continue to decrease steadily in Massachusetts (p. 482)

Complementing these studies, G. Bertini and Wapner (1992) have provided more striking findings based on observations in the city of Rome prior to and

following introduction of an automobile safety belt law in Italy. They have found that rates rose to 54.8% just after legislation, then dropped to 28.0% 6 months later, and continued to drop even further to 4.5% 3 years later. In fact, they have even provided anecdotal evidence that some individuals in Italy, rather than comply with the law, wore tee shirts with pictures of safety belts emblazoned across them.

METHODOLOGICAL CONSIDERATIONS: METHODS, DESIGNS, AND TECHNIQUES

In light of the constructivist underpinning of our approach, we have typically been concerned, in all of our research, with describing the relations both among and within the parts (person, environment) that make up the integrated whole (person-in-environment system) as well as with specifying the conditions that make for changes in the organization of these relations. Therefore, our approach has consistently been wedded to the complementarity of *explication* (description) and *causal explanation* (conditions under which cause-effect relations occur) rather than being restricted to one or the other. Further, our assumptions impact our choice of paradigmatic problems (such as that described herein) as well as our preferred method of research (i.e., flexible drawing from both quantitative and qualitative methodologies depending on the level of integration and nature of the problem under scrutiny). In this regard, we agree with Maslow's (1946) preference for problem-rather than means-oriented research. For example, rather than having investigators determine relevant problems that may be studied using their preferred method(s), investigators should be open to studying interesting problems that, in turn, determine the appropriate method(s).

To understand the methodological intricacies of our empirical work, a further discussion of the empirical designs and techniques used in a number of our studies under the aegis of our perspective follows. Since the general approach focuses on transitions (i.e., experience as well as action with the environment including its physical, interpersonal, and sociocultural aspects), it is characteristic that a wide range of designs and techniques is used.

In general, two types of designs, *cross-sectional* and *longitudinal*, have been employed. Cross-sectional analyses represent an attempt to capture an a-temporal relationship between abstracted variables or a set of relationships by assessing contrasting groups or conditions at a given point in time. For example, Wofsey, Rierdan, and Wapner (1979), by varying agent status, have studied the impact of the presence or absence of plans on how graduating undergraduates construed the environment, which they were about to leave. Both *drawing* and *verbal description techniques* were used by participants to represent the university environment. Findings from the two techniques were convergent: both pointed to greater psychological distancing from the current university environment by seniors with articulated plans for the future compared to those without plans. In one striking example, a senior with extremely well articulated plans for his future represented Clark University as a

dot on the Western Hemisphere with a caption reading "Freud spoke here (and hated it)."

Relative to the issue of links between theory and method, the criterion "distancing from the environment" is a measure based on a formal structural aspect—degree of differentiation between self and environment—that may be applicable to a variety of contexts. For example, drawing categories indicative of remoteness from the environment (greater self-world distancing) have included: map-like; aerial view; static; objective (e.g., factual titles); and geometric form. Categories indicative of closeness to the environment (lesser self-world distancing) have included: close-up view; subjective/idiosyncratic; subjective descriptions added; person-environment transactions; and three-dimensional perspective (cf. Demick & Wapner, 1980). Recognizing the possibility of sample-specific findings, it is significant methodologically that cross-validation with new participant samples (psychiatric patients and staff members) was employed with consistent support of the findings (below).

Others using cross-sectional designs have varied the environmental context as well as the agent status. For example, Dandonoli, Demick, and Wapner (1990) have introduced, in addition to drawings and verbal representations, the technique of *memory reconstruction of a miniature model of a room and its contents*, which is especially valuable for use with children, who may have both verbal and drawing limitations. Further, Edelman, Rierdan, and Wapner (1977) have found that the audience—self, intimate other, stranger—significantly affected the linguistic representation of the environment with respect to such dimensions as egocentricity, vocabulary, depth, emotionality, evaluation, and ambiguity. As they noted, it is of methodological significance that studies using "... environmental representation must consider the audience—implicit or explicit—to whom the representation is addressed" (p. 431).

In contrast, the majority of our work on critical person-in-environment transitions has employed ecologically valid field studies with assessments made over time. These longitudinal studies have primarily utilized responses to a relatively fixed set of tasks at different time slices. Such time series studies may require introduction of controls for the effects of repeated measurements. That is, time sampling has, where possible, involved assessments across various points in the transition process and has provided a reconstruction of the changing transactions of individuals with their environments (e.g., see Schouela, Steinberg, Leveton, & Wapner, 1980, on college students' cognitive representations of a university environment over time).

Case studies of various kinds, group analyses, and systems analyses with longitudinal designs have also been employed. An example of longitudinal analyses using case studies comes from Cohen, Wapner, Pruginin, and Dandonoli (1974), who studied students spending a year in Israel as temporary migrants. Here, the following techniques were employed: (a) *personal construct forms* covering expectations prior to departure, experiences of different aspects of the environment at different times, etc.; (b) *psychological distance maps* for "people" and "places" on which participants were asked to represent their feelings of psychological closeness to people or to places, respectively, that constituted their psychological environments;

(c) *topographical maps* of their new environments; (d) *activity logs* on which they were asked to note and to characterize salient events at different times in their sojourn; (e) *landscape impression checklists* to assess the changing salience of different environmental features; and (f) a *communication inventory* (of letters and telephone calls to members of their old and new environments).

On the basis of these instruments, an analysis of one case study, for example, suggested shifts in attitude toward the home environment (from bondage to positive close feelings), an increasing sense of membership in the new environment, greater independence and self-confidence, greater integration of places in the new environment, and greater acceptance by others. In contrast, another case study revealed the failure to become integrated in the new environment. More specifically, Wapner has described this student as follows:

Y had a definite mission in mind in going to Israel: He wanted to enrich himself in terms of his studies, learn to improve his Hebrew, increase his self-sufficiency, learn to adapt to a new environment away from home. From a superficial point of view—we had no instruments to assess depth—Y appears to be an extremely self-sufficient person. As far as could be determined from his protocols, his real home environment, although it might impinge on him externally, did not seem to intrude on his relations to the new context. From his personal comments and his activity logs, there is evidence that his family did come to visit him in Israel, but he notes that this contact did not alter his routine operations and observations. On the psychological distance maps, his home is only represented twice, in the initial map and the final map before returning home. The general picture that emerges is that he cut off the home base once he arrived, and resurrected it only when he was ready to leave. (Wapner, Kaplan, and Cohen, 1976, pp. 223–224)

Of methodological importance was the evidence that it is possible to link participants' reconstructions with indices from these various techniques.

Another type of longitudinal case study with a temporary sojourner to a professional meeting used what was called the *debriefing technique* (Kaplan, Pemstein, Cohen, & Wapner, 1974). Prior to the trip, the investigators asked the participant to keep a diary of his experience with persons, places, and things prior to leaving home, during travel to the new environment, during travel home, and once back in the home environment. Because of the open-ended nature of such instructions, the participant is typically left on his or her own, thus operating as a participant-investigator. On return, the debriefing begins. The investigators change roles to become partial participants, that is, asking questions of the participant that stem from their own interests and experiences. Simultaneously, the participant in the debriefing session becomes more of an investigator in the sense that he or she asks himself or herself questions about his or her experience from a more objective point of view.

Another longitudinal analysis was conducted in the previously mentioned study (Schouela et al., 1980) using freshmen entering the university where assessments were made concerning how the participants construed and transacted with

the university environment, including its physical, interpersonal, and sociocultural aspects. It utilized *sketch maps* coupled with a follow-up inquiry, *open-ended interviews*, psychological distance maps with a follow-up inquiry, and *retrospective reports on discrepancies between personal expectations of the environment and experienced actuality*. Assessments were made for primary participants on 6 test occasions after arrival on campus, ranging from 1–3 days to 24 weeks. To control for the effect of repeated testing, two additional groups were employed: one started on the second test occasion and was tested four more times, while another started on the fourth test occasion and was tested two more times. Sketch map findings have illustrated the way in which the approach shapes the analysis: formed/structural features of the maps were scored (e.g., correctly articulated buildings, completed sub-regions, distortion of spatial relations) and revealed, over time, a progression toward greater differentiation, articulation, and integration.

Another study (Demick & Wapner, 1980) using longitudinal analysis dealt with the effects of environmental relocation on members of a psychiatric therapeutic community. Schizophrenics, antisocial personalities, and staff members were tested prior to (3–4 weeks; 2–3 days) and following (2–3 days after; 3–4 weeks) relocation of a psychiatric hospital. Changes were assessed in: (a) experience of self (*apparent head size estimation, body- and self-cathexis*); (b) experience of environment (including sketch maps and psychological distance maps); and (c) experience of self-environment relations (*body buffer zone, hospital information test*).

There was evidence of differential changes over the course of relocation dependent on participant group (schizophrenics vs. antisocial personalities). For example, while the schizophrenic group overestimated their head width more immediately preceding and immediately following relocation, the antisocial group overestimated their head width less on those two occasions. The schizophrenics' descriptions of the rooms within the hospital also became less accurate and less detailed surrounding relocation, while this did not occur for the antisocial personalities. Further, while schizophrenics rated their relationships with others as less intense and less permanent on the two test occasions closest to the move, antisocial personalities rated them as more intense. The differential effects for the two groups squared with the proposition that the stress of the move made for an exacerbation of the particular pathology. Moreover, the study has pointed to the importance of agent differences in the construal and representation of environments under critical perturbations of the environmental setting.

A systems-type longitudinal analysis is exemplified in a pilot study (Ciottono, Demick, Pacheco, Quirk, & Wapner, 1980) on the transition from home to nursery school of both handicapped and non-handicapped children. Here, we were interested in obtaining information on the physical and interpersonal as well as sociocultural aspects of both the home/family and nursery school systems. Since the analysis treats all members of the systems affected by the child's transactions, many participants were included. The home setting for one child might include, for example, mother, father, brother, and at the time of testing, two investigators; the bus ride includes the bus driver, a number of other children, and the investigator-observer; at the nursery school, there are a number of personnel

including teachers, administrators, and investigator-observers. This makes for an extraordinarily large number of persons who are part of the interpersonal aspect of the two relevant environments.

For this reason, quite diverse techniques were required: (a) *interviews*—with parents, siblings, teachers, the nursery school child, bus driver, etc.—which cover, from the perspective of each person, the anticipations, concerns, happenings, modes of adapting, etc. concerning the child's entry into nursery school; (b) *play techniques*—such as telling a story in the context of doll play with houses representing home and school, which presumably cover cognitive, affective, and evaluative aspects of the child's experience—and other techniques such as drawing and placement of felt cut-outs of people and things on a felt board; and (c) *observations of focal children and of objects/places and persons* comprising the immediate environmental context. The goal was to obtain information concerning the transactions among children and teachers, the intentions underlying these transactions, and the modes of construing the physical, interpersonal, and sociocultural aspects of the environment.

Here, the child must ideally operate effectively in two contexts, each with different demands. Specifically, he or she must be able to organize his or her transactions at home and at school into differentiated and integrated spheres of activity (multiple worlds). Our research has indicated the following. When children import behavior and objects from one setting to the next indiscriminately, they are exhibiting developmentally less advanced transactions since such behavior implies fusion of home and school contexts. If with further exposure, their transactions are appropriate to the context (e.g., the child states, "am going to play school here at home"), then the child is exhibiting actions indicative of more advanced developmental status.

Further, we have found that the transition to nursery school impacts not only the child but his or her parents as well. In one case study, we (Ciottone, Demick, Pacheco, Quirk, & Wapner, 1980) have evidence that the transition to nursery school impacted one mother at all levels of organization, namely, physical aspect of self (e.g., the mother needed to wake up earlier), psychological aspect of self (e.g., the mother thought about going back to school herself), sociocultural aspect of self (e.g., the mother perceived herself as the parent of a preschooler), physical aspect of environment (e.g., the mother felt a need to keep the house clean so that her daughter might bring home friends from school), interpersonal aspect of environment (e.g., the mother developed a connection to the school bus driver), and sociocultural aspect of environment (e.g., the mother became aware of new rules and mores both at home and at school). Such research has suggested that—as a complement to more traditional experimental studies—it is profitable, using qualitative methodologies, to reduce the number of focal individuals studied (here, children transitioning to nursery school) rather than the number and kinds of interrelationships among aspects of the person, of the environment, and of the systems to which they belong.

While it is evident from these examples that we have used a variety of methods and techniques, it would be valuable to go even further. That is, we believe that the

analysis of critical transitions calls for the complementary utilization of methods that cut across disciplines (cf. Redondo, Pacheco, Cohen, Kaplan, & Wapner, 1981). That is, in our ongoing and projected studies, we envision the use of techniques from anthropology (e.g., componential analysis), linguistics (e.g., semantic structures), clinical psychology (e.g., Rorschach and TAT analysis), rhetoric (e.g., analysis of proverbs, figures of speech), etc. to gain a fuller appreciation of what goes on in the “many minds” of individuals when they are confronted with voluntary or involuntary, physical and/or psychological, sudden or chronic ruptures in the person-in-environment systems of which they are a part.

IMPLICATIONS FOR PRACTICE

Based on the above, our approach and the research generated from within it—which views theory and praxis as flip sides of the same coin—have several implications for practice (e.g., clinical psychology). These implications include the following.

1. Practitioners need to acknowledge that what is critical for one person is not necessarily critical for another and that what constitutes a “critical” transition for any given individual must be experientially defined. Thus, rather than assuming that any given normative transition (e.g., transition to middle age) will pose difficulty for his or her client, the clinician needs to listen for signs concerning those transitions that the client himself or herself identifies as problematic.
2. The clinician also needs to understand that a critical transition has the potential to impact functioning at all levels of the person and with respect to all levels of the environment (i.e., both individual parts and the whole). For example, our research has uncovered that, following a critical person-in-environment transition, disturbances in aspects of body experience usually parallel the more expected disturbances in aspects of self experience (see Demick & Wapner, 1988a, on the ways in which body experience, surprisingly, may be affected by the transition to adoptive parenthood).
3. In addition to all levels of the person transacting with all levels of the environment to form a unified whole (above), our holistic assumption also holds for functioning within a given level (e.g., psychological level consisting of cognitive, affective, valuative, and action processes). Thus, individuals undergoing transitions and clinicians may do well to explore the interrelations among *all* psychological part-processes, rather than only—as is customarily the case—to acknowledge the relations between cognition and affect.
4. When faced with a critical transition, the person-in-environment system might benefit from self-world distancing, which may promote developmental change in one of two ways. Specifically, an increase in self-world distancing between the P-in-E system and affectively laden material may

permit the system to operate more optimally insofar as there is greater separation between cognition and negative affect (cf. Nair, 1961). More generally, a decrease in self-world distancing between the P-in-E system and the consequences of his or her negative actions may lead to safer, more optimal P-in-E functioning.

5. Wapner and Demick (1998) have documented the phenomenon of “reuler pour mieux sauter” (draw back to leap): “A negative experience (e.g., loss of self-esteem) may serve the positive function of fostering greater self-insight and providing the formal condition of ‘dissolution of a prior organization of the self,’ thereby permitting a creative reorganization of self.” (p. 795).
6. Individual differences in the experience of critical P-in-E transitions (and correlative modes of Coping; see p. 8), namely, *dedifferentiated* (passive accommodation), *differentiated and isolated* (disengagement), *differentiated and in conflict* (non-constructive ventilation), and *differentiated and integrated* (constructive assertion) may be a useful lens for clinicians to assess the range of reactions to the same transition across their different clients.
7. Physical, interpersonal, and social anchor points may facilitate the adaptation of P-in-E systems to a range of critical transitions across the life span (from the child’s entry into nursery school to the older adult’s adaptation to the nursing home environment).
8. A simple request for the P-in-E system to verbalize plans about actions to be taken to advance himself or herself to a new, more ideal P-in-E system (as well as more extensive planning processes) may bring the desired state into effect.
9. Making the P-in-E system more aware of the precipitating triggers to action may lead to more optimal P-in-E functioning both generally and over the course of critical transitions.
10. System members (e.g., spouses, co-workers) have the potential to impact both positively and/or negatively an individual’s critical transition; thus, clinicians might attempt to facilitate the individual’s transition experience by fostering congruence between the individual’s and his or her system members’ experience.
11. In light of our conceptualization of adaptation as consisting of optimal relations between the person and his or her environment (person-in-environment fit or congruence), individuals undergoing critical transitions and clinicians may do well *not* to see adaptation as a one-way street; rather, the person may adjust to the environment, the environment may adjust to the person, or both.

In concluding this section on the implications of our approach for practice, we now present one example of intervention research on a problem of extreme social significance, namely, safe sex practices and protection against AIDS. As a first step, Ferguson, Wapner, and Quirk (1993) asked college students to report on sexual situations in which they “did not do what they wanted to do” and

situations in which they "did do what they wanted to do" with respect to protection against the sexual transmission of HIV (illustrating our more general concern with the relations between experience and action). Responses were then categorized in our developmental terms as follow: (a) *dedifferentiated* (e.g., "I was so aroused at that point that I didn't worry about HIV"); (b) *differentiated and isolated* (e.g., "I do everything except that because it decreases my chances of contracting HIV"); (c) *differentiated and in conflict* (e.g., "She insisted that I not use a condom so I didn't against my will"); and (d) *differentiated and hierarchically integrated* (e.g., "I use protection because I am aware of the consequences of unprotected sex . . . protected sex is of utmost importance"). Findings indicated that, when individuals reported that they "did what they wanted to," differentiated and hierarchically integrated responses were most frequent; when they reported situations in which they "did not do what they wanted to do," their responses were characteristically less advanced (i.e., dedifferentiated, differentiated and in conflict).

On the basis of these data, Clark (1995) then introduced three interventions to change unsafe behavior in sexual contexts: (a) providing information about the HIV/AIDS disease and how the virus is transmitted; (b) providing information on how HIV/AIDS is transmitted as well as accounts from the Ferguson et al. (1993) study of actions when participants "did what they wanted to do" and when they "did not do what they wanted to do"; and (c) providing information about how the HIV/AIDS is transmitted and a tailored imagery exercise (in which they were asked to imagine the consequences of one of the accounts of reported unsafe behavior from which they were to assume that they had contracted HIV). Findings indicated that, relative to those in the first two conditions, those in the third condition (personalized treatment to decrease the psychological distance between the participant and the threat of HIV/AIDS) reported a significantly greater frequency of practicing safe sex. Such interventions also have relevance for other critical problems on which we have worked, for example, the experience of automobile safety belts and subsequent intervention to increase safety belt usage.

SUMMARY AND CONCLUSIONS

Our holistic, developmental, systems-oriented program of research has made use of such assumptions as: holism; transactionalism; structural and dynamic analyses; constructivism; process versus achievement; development as a mode of analysis (orthogenetic principle); developmentally-ordered individual differences; and methodological flexibility. In line with these assumptions, we have conducted numerous empirical studies on critical person-in-environment transitions across the life span aimed at moving both: (a) the individual faced with a critical transition to an optimal, differentiated and integrated person-in-environment system state; and (b) the field of psychology to a differentiated and integrated academic discipline with implications for problem, theory, method, and practice. We have clearly drawn on Werner's (1940/1957) classic organismic and developmental notions.

Both his approach and our own elaboration have been organismic insofar as we maintain that we should study the active, striving, feeling individual in all of his or her complexity and developmental in that we advocate for development as a mode of analysis applicable to diverse aspects of person-in-environment functioning (e.g., critical transitions). We hope that such a grand program of research—based seminally on Werner's (1940/1957) organismic/comparative-developmental theory—will continue to stimulate additional theory and research into a third millennium.

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