

2 Competence, Autonomy, and Relatedness: A Motivational Analysis of Self-system Processes

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OVERVIEW

The purpose of this chapter is to present a theoretical model of self-system processes across the life-span. This model is based on a motivational analysis of self-system functioning that features three fundamental psychological needs: competence, autonomy, and relatedness. After evaluating selected theoretical approaches to the study of self, the defining features of the new model will be presented. An application of the model within the enterprise of school will be discussed, including data from studies of self-system processes in children and adolescents. The chapter concludes with a discussion of the model's implications for institutional reform.

THEORETICAL APPROACHES TO THE STUDY OF SELF

The psychological study of self has been shaped by a broad range of theoretical perspectives. Since the turn of the century writings by William James (1890), James Baldwin (1897), George Herbert Mead (1934) and Charles H. Cooley (1902), most major strands of modern psychological and sociological thought have been represented in theoretical and empirical studies of self. For example, cognitive theories of self reflect the two major branches of cognitive psychology, structural and information processing approaches. Modern learning theorists such as Julian Rotter (1954), Albert Bandura (1977), Martin E. P. Seligman (e.g., Abramson, Seligman, & Teasdale, 1978) have all made important contributions to the elaboration of self-related phenomena. Psychodynamic and psychosocial theories such as those of Sigmund Freud, Anna Freud and Erik Erikson have had important influences on the study of self, as have other clinically based theorists

such as Carl Rogers. Object relations and ego psychological theories have also investigated the emergence and unfolding of the self. Finally, sociologists within the symbolic interactionist tradition have continued to show theoretical and empirical interest in the self and its social rudiments (e.g., Gergen, 1984; and Brim, 1976). Developmental treatments of self draw on this eclectic set of theoretical influences. Our colleagues participating in this symposium reflect the diversity of contemporary views on this central developmental issue of "how we come to be who we are." Attempting to classify such a rich and diverse set of theoretical approaches to the study of self is a daunting task, one easily given to oversimplification. Nonetheless, an attempt will be made to address the strengths and weaknesses of a number of approaches to understanding the self within the traditions of *cognitive, social, and motivational psychology*.

Cognitive Approaches to the Study of Self

Cognitive approaches to the study of self share an emphasis on the cognitive underpinnings of our sense of "who we are." The key terms in these approaches—knowledge, beliefs, theories, schema—suggest that a developing sense of self involves what is *known* about one's self. What develops then is the acquisition and organization of this knowledge. Structural approaches investigate developmental changes in the way self-knowledge is organized. For example, Damon and his colleagues (e.g., Damon & Hart, 1982) rely on theoretical methods drawn from Piagetian theory to describe the developmental progression of children's moral understanding. McGuire and his colleagues (e.g., McGuire, 1981) examine organizational changes in the *content* of children's and adolescents' responses to the question "Who Am I?" and point to shifts in the thematic content of these responses. Epstein's (1973) explication of self-theory is linked to cognitive models of scientific thought while Carver and Scheier (1981) employ computational metaphors in their research on processing of self-relevant information. Markus (1977), in her work on *self-schema*, examines how self develops drawing on research in social psychology and language development.

Another cognitive approach to the development of self is that of "action theory." While considerable diversity exists within this theoretical network, researchers using this approach (see, for example, Sabini & Frese, 1985) emphasize interrelations among individual goals, beliefs about strategies for achieving these goals, actions driven by these beliefs, and the consequences of these actions. One fundamental aspect of an action theoretical conceptualization is that goal-directed behavior is regulated by an internal model of the action that will result in goal attainment (Frese & Stewart, 1984).

These cognitive approaches vary primarily in their metaphors for the development of self-knowledge. Structural theorists depict age-graded change in the thematic content and complexity of self-knowledge. Information-processing theorists, on the other hand, employ computational metaphors to describe the way information regarding self is processed.

Social Approach

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Attachment theorists (e.g., Waters, & Wall, 1978) and their colleagues (Main, Kaplan, & Cassidy, 1985) have shown that the quality of working relationships in the caretaking environment is a major determinant of the social surround and, therefore, of the individual's development.

Motivational Appro

A third category of self-referential, self-based conceptualization focuses on how self-referentiality is *thematically* or *thematically based* prior to, or sometimes dramatically,

ological theories have also. Finally, sociologists within the field to show theoretical and empirical (e.g., Gergen, 1984; and others) on this eclectic set of theories. This symposium reflects the central issue of "how we can use a rich and diverse set of theoretical tasks, one easily given to address the strengths and challenges of understanding the self within the field of psychology."

emphasis on the cognitive aspects in these approaches—a developing sense of self is then the acquisition and investigation of developmental processes. For example, Damon and his colleagues (Damon, 1981) use theoretical methods drawn from the study of children's moral development. McGuire (1981) examined adolescents' responses to the thematic content of these tasks linked to cognitive models. Damon (1981) employs computational models of relevant information. Markus (1981) examines self development drawing on these models.

One of self is that of "action within a theoretical network, reviewed by Bandura & Frese (1985) emphasize strategies for achieving the consequences of these theoretical conceptualizations is that the model of the action that will

use metaphors for the developmental change in the self. Information-processing models use metaphors to describe the

Social Approaches to the Study of Self

Approaches to studying the self within the tradition of social psychology and sociology share an emphasis on the social context as the matrix within which the self develops. However, these conceptualizations disagree on the social interactive mechanisms of development. Cooley's (1902) metaphor of the "looking glass self" formed the foundation of the symbolic interactionist view of self in which the sense of self develops out of the reflected appraisals of significant others in the social surround. Early behaviorists such as Watson (1919) and, later, B. F. Skinner (1953), while maintaining an emphasis on social factors (i.e., reinforcement) had no use for the notion of self. Unlike the symbolic interactionists and the early behaviorists who gave little credence to intrapsychic processes in their formulations, later social learning theorists began to include beliefs about the self as important concepts within their theoretical models. Bandura's self-efficacy expectations (1977) and Rotter's (1966) concept of locus of control placed *self-perceptions* within their respective theoretical frameworks. Nevertheless, these social theorists identify the *source* of these self-perceptions as the patterning of socially administered rewards and punishments.

Object relations theorists such as Winnicott (1965) and Mahler (Mahler, Pine, & Bergman, 1975) and self theorists such as Kohut (1977) also locate the genesis of self in social interactions. These theorists specify *internalization* of self-relevant information as a central developmental process. In these descriptions, these theorists draw a much more abstract and developmentally variegated picture both of the kinds of information communicated by significant others (e.g., affective, behavioral, cognitive) and the mechanisms of change in self development (e.g., mirroring, individuation) than do the social learning theorists who tend to focus exclusively on behavior as the content of change and on either direct or vicarious reinforcement processes as the mechanisms of change.

Attachment theorists such as Bowlby (1969), Ainsworth (Ainsworth, Blehar, Waters, & Wall, 1978) and, more recently, Bretherton (1985) and Main and her colleagues (Main, Kaplan, & Cassidy, 1985) have linked the emergence and quality of working models of self to early and ongoing experiences with the caretaking environment. In their formulations, the sensitivity and responsivity of the social surround are the primary social interactive processes responsible for the individual's developing sense of self in relation to significant others.

Motivational Approaches to the Study of Self

A third category of self theorists are those who have proposed motivationally based conceptualizations of self. These motivational approaches share a common focus on how self-related cognition and affect develop in relation to *organismically based priorities*. These priorities vary among motivational theorists, sometimes dramatically.

Building on James's (1890) early discussions of self-esteem, theorists such as Coopersmith (1967), Covington (1984), and Harter (1983a) have emphasized the developmental significance of global and domain specific beliefs regarding self-worth. These theorists, along with Rogers (1951), implicate self-worth or self-esteem as an *organizational construct* (Sroufe & Waters, 1977). As such, self-worth is hypothesized to be related to variables such as perceived competence and attributions for success and failure. According to Harter (1983a), self-worth is also an important mediator of emotional experience in multiple domains.

Psychodynamic theorists trace the roots of self-development to the complex interplay among fundamental *biological* drives and identification processes. Freud (1927) proposed that one's sense of self (i.e., ego) arises out of the dynamic relationship between the press of instinctual needs and the constraints of the external world. Psychosocial theorists such as Erikson (1950), while retaining much of Freud's basic formulation, *co-emphasize* psychodynamic processes and the sociocultural structuring of the life course.

Motivational theories such as those of Maslow (1970), McClelland (1985), White (1959), and Deci (1980) link the development of self to *psychological* needs. Maslow's (1970) conceptualization was based on a hierarchical organization of biological drives and psychological needs. Deci (1980) incorporates a sense of self within his conceptualization of self-determination. McClelland (1985) treats needs for power, achievement, and affiliation as distinct, theoretical entities of relevance to the development of self.

Evaluation of Theoretical Approaches

Many of the theoretical positions within the cognitive, social, and motivational approaches to the study of self have not been tested empirically, nor were they designed to be. Nevertheless, it is possible to review these positions critically by posing a common set of questions for each to address. These questions were thought to be particularly relevant to developmentalists interested in the empirical and theoretical study of the self. First, what is each approach's view of the developing person? Second, what role is ascribed to the social context in the development of self? Third, according to each perspective, what difference does the "self" make in what people actually do in their everyday lives?

Views of the Developing Person. Cognitive approaches clearly view the developing person as a *knower* of self, as a constructor and processor of information about the self. In her comprehensive review of developmental literature on self-system processes, Harter (1983b) revived the philosophical distinction discussed earlier by James (1890) between the *I* and the *me*. The *me* represents the objective self, the *I* the subjective; the *me*, what is to be known, the *I*, the knower.

Ironically, theorists who objectively *known* about themselves, theorists clearly emphasize self develops, is progress both information-processes "goals" as a central variable feature of the *knower*. But or where these goals come and action theory approach and are calibrated by behavior the nature and origin of goals

Social approaches, which terminology and emphasis it is woven into the social Watson's (1919) oft-cited nativist perspectives. By environment, Watson assumes regardless of their hereditary tradition do attribute development person. Indeed, in some with the social surround the notion of a goal-directed do not provide a clear spectable other than a historical treatments of social influence Reigle, 1973), the analysis unit (dyad, family, societal

According to motivational needs play a central role White (1959), and Deci (1980) with superordinate and, to self-actualization; Deci's the organism's proximal on the other hand, present instinctual drives sets a firm

Role of the Social Context. Theorists vary greatly on the role of the social context in the development of the self. To address social contextual development, there has been a history of tension to downplay social influence to this include the semir

self-esteem, theorists such as (1983a) have emphasized the specific beliefs regarding self-worth or self-esteem (1977). As such, self-worth is perceived competence and (1983a), self-worth is in multiple domains.

Development to the complex self-identification processes. (e.g., ego) arises out of the needs and the constraints of (1950), while retaining psychodynamic processes and

(1970), McClelland (1985), shift of self to *psychological* on a hierarchical organization. Deci (1980) incorporates a self-determination. McClelland distinguishes as distinct, theoretical

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approaches clearly view the self as a processor of information. Developmental literature on the philosophical distinction distinguishes between the *me*. The *me* represents the self to be known, the I, the

Ironically, theorists within a cognitive tradition concentrate on what can be objectively *known* about the self rather than on the subjective "*knower*." These theorists clearly emphasize the *content* of self; on how what is known about the self develops, is progressively organized, and is differentiated. For example, both information-processing approaches and action theoretical approaches use "goals" as a central variable in their general models. Goals are clearly a central feature of the *knower*. But, there is little or no discussion of what these goals are or where these goals come from. Instead, the focus of information processing and action theory approaches is on how goals translate into cognitive strategies and are calibrated by behavioral and cognitive outcomes. Without a discussion of the nature and origin of goals the knower remains shapeless, a mystery.

Social approaches, while clearly distinct from cognitive approaches in their terminology and emphasis, also view the organism as relatively shapeless, *until* it is woven into the social fabric. The most radical exemplar of this perspective is Watson's (1919) oft-cited "give me a dozen babies" challenge to proponents of nativist perspectives. By exercising specific control over the physical and social environment, Watson asserted that specific types of children could be produced regardless of their heritage. Other, more moderate theorists within the social tradition do attribute delimiting and facilitating parameters to the developing person. Indeed, in some social approaches, the organism becomes a *negotiator* with the social surround by early in the third year of life (e.g., Bowlby's, 1969, notion of a goal-directed partnership). Typically, however, these social theorists do not provide a clear specification of what the person *brings* to the negotiating table other than a history of social interaction. Even in the most dialectical treatments of social influences on the development of self (e.g., Gergen, 1984; Reigle, 1973), the analysis of how the self develops still proceeds from the social unit (dyad, family, society) to the individual's sense of self.

According to motivational theorists, emotional processes and psychological needs play a central role in shaping the development of self. Maslow (1970), White (1959), and Deci (1980) hold a *teleological* view of the developing person, with superordinate and, to some extent, distal organismic goals (e.g., Maslow's self-actualization; Deci's self-determination; and White's competence) driving the organism's proximal development. Psychodynamic theorists (Freud, 1927), on the other hand, present a more *ballistic* view in which the frustration of early instinctual drives sets a firm trajectory for the future development of self.

Role of the Social Context. As with their views of the developing person, theorists vary greatly on both *what* and *how much* they have to say about the role of the social context in the development of self. Cognitive approaches tend not to address social contextual influences in the construction of self-knowledge. Indeed, there has been a historical tendency within the cognitive psychology tradition to downplay social influences on cognitive development. Notable exceptions to this include the seminal work of Vygotsky (1962) on the social bases of

language and thought, applications of Fischer's (1980) skill theory to the development of self, and an emerging literature on autobiographical memory and the social construction of self (Barclay & Hodges, 1988).

By definition, social approaches to the study of self have a great deal to say about the role of the social context. Social theorists nevertheless vary greatly in their views of *how* the social context shapes the course of self-development. For example, there is disagreement on the degree to which the individual shapes or is shaped by their social interactions. Social learning theorists tend to characterize the relationship between the individual and their social context in the form of a unidirectional model from social context to self. On the other hand, modern attachment theories (e.g., Bretherton, 1985; Connell & Thompson, 1986) and life-span developmental views (e.g., Baltes, 1987; Dannefer, 1984; Lerner & Busch-Rossnagel, 1981) place the person in a more active, initiating role with respect to the social context.

Unlike most social learning views of self, attachment and object relations theorists highlight certain periods of development and particular significant others as crucial in the development of self. Within objects relations and self psychology traditions (e.g., Kohut, 1977; Winnicott, 1965), mothers are viewed as singularly important both in the genesis of the self and its subsequent developmental progression. Social learning theorists, however, tend to be less concerned with developmental issues and relatively undifferentiated in their a priori emphasis on one or another social partner.

Social approaches also vary in the *level* of analysis employed in exploring the development of self and in the mechanisms or processes used to link social experience with the construction and revision of self. Investigations of social influences on the self range from the microanalysis of mother-child interaction represented by the work of Stern (1977) to macroanalyses of sociocultural influences on self-development by Smith (1985) and Elder (1984). Mechanisms being explored at a microanalytical level include patterns of emotional sensitivity or contingent responsiveness (e.g., Ainsworth et al., 1978; Gewirtz, 1972). At the macrolevel, investigators are examining how cultural icons and symbols, abstract ideologies, and rhetoric shape and transform individual and collective views of self.

Motivational approaches tend to view the social context as a facilitating or inhibitory milieu in which the sense of self develops. Facilitating aspects of this milieu include notions of unconditional, positive regard (Rogers, 1951), support of autonomy (Deci & Ryan, 1985), and the channeling of motivational energies toward culturally acceptable enterprises (Freud, 1927). Conversely, inhibitory or conflict-producing aspects of the social context would include withholding emotional support from the individual, seeking to control organismic initiations, and noncontingent responses to the person's initiations toward culturally approved ends.

Self and Action Link
people do in their everyday question. Those that do of self relates to our behavior approaches do not elaborate action. This critique should affect broader patterns of cognitive/structural approach processing approach certain action theoretical in their microanalytical analyses, the behaviors stem-solving loops. Other self-schemata (e.g., Markory processes both in laboratory related beliefs have also been histories (e.g., Barclay &

Early social approaches the social *construction* of social learning research has in laboratory and survey underlying these empirical self-development argue the many attachment relationships familial relationships, including working models regulate emerging clinical literature onstrate the negative effects and subsequent decrements, behavioral symptoms, withdrawal of social support functioning.

Motivational approaches self-functioning affects belong to idiographic symptoms and deficits in self-development behavioral consequences (1953). Motivational theories colleagues (Abramson, et al., Tanenbaum, Alloy, & behavioral outcomes of life with learned helplessness.

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context as a facilitating or . Facilitating aspects of this ard (Rogers, 1951), supporting of motivational energies D). Conversely, inhibitory or d include withholding emotional organismic initiations, and toward culturally approved

Self and Action Linkages. What difference does the self make in what people do in their everyday lives? Many self theorists do not even consider this question. Those that do often do not specify *how*, by what process, our sense of self relates to our behavior. Within the cognitive tradition, most structural approaches do not elaborate how structural differentiation of self-knowledge affects action. This critique should not be taken to imply that self-knowledge doesn't affect broader patterns of action in everyday life, it's just that many of these cognitive/structural approaches do not typically address these issues. Information processing approaches such as those of Carver and Scheier (1981) and certain action theoretical approaches (e.g., Kuhl, 1984) include action/behavior in their microanalytical models. However, due to the level of these cognitive analyses, the behaviors studied tend to be covert cognitions within small problem-solving loops. Other cognitive theorists concerned with the development of self-schemata (e.g., Markus, 1977) do examine how these schemata affect memory processes both in laboratory experiments and in everyday life. Finally, self-related beliefs have also been implicated in the constructions of autobiographical histories (e.g., Barclay & Hodges, 1988).

Early social approaches to the study of self (e.g., Cooley, 1902), emphasized the social *construction* of self but not the social *implications* of the self. Modern social learning research has addressed behavioral correlates of self-related beliefs in laboratory and survey studies but have yet to specify fully the processes underlying these empirical linkages. Object relations and attachment theories of self-development argue that the working models of self develop out of the primary attachment relationship and have direct implications for subsequent extra-familial relationships, including peer and intimate adult relationships. *How* these working models regulate action in everyday life is less clearly delineated. An emerging clinical literature on childhood psychopathology is beginning to demonstrate the negative effects of psychopathological symptoms on social support and subsequent decrements in self-functioning (Cicchetti, 1989). In these studies, behavioral symptoms of deficient self-functioning are thought to elicit withdrawal of social support which in turn exacerbates the difficulties of self-functioning.

Motivational approaches to the study of self vary in their portrayals of how self-functioning affects behavior. Psychodynamic and psychosocial theories point to idiographic symptoms such as regressive and neurotic behavior as evidence of deficits in self-development, but little attention is given by these theorists to the behavioral consequences of *optimal* self-development (Freud, 1927; Sullivan, 1953). Motivational theories such as those of Seligman, Abramson, and their colleagues (Abramson, et al., 1978; Seligman, 1975; Seligman, Peterson, Kaslow, Tanenbaum, Alloy, & Abramson, 1984) point to the negative emotional and behavioral outcomes of learned helplessness and attributional styles associated with learned helplessness. However, the action consequences of *adaptive* self-

related beliefs are less fully explicated. The principal organization of these lines of research is a deficit model in which frustrated or undernourished psychological needs/drives lead to maladaptive behavior, self-related cognitions, and affect.

Other motivational theorists, such as Deci and Ryan (1985), do examine conditions for *optimization* of behavior. For example, these theorists assert that the experience of *autonomy support* facilitates persistence at a task when no external support is present. Clearly, a motivational approach to the study of self that can explain how self-functioning is related to optimal and maladaptive patterns of behavior provides a broader view of the development of self than a strictly deficit model.

Summary of Theoretical Review

According to Harter (1983b), the theoretical literature on the self is a microcosm of developmental psychology and, to some extent, of all psychology. It reveals and exemplifies the field's historical roots, its paradigmatic upheavals, and its current *Zeitgeists*. The goal of this brief review, as summarized in Fig. 2.1, was to focus on three issues that are seen as central to evaluating any comprehensive model of self. Specifically, "What is the view of the developing person?"; "What role does the social context play in the development of self?"; and, "How does the sense of self affect action?" In the next section, a new theoretical model of self-system processes will be presented in light of these same three issues.

SELECTED ISSUES FOR THEORETICAL VIEWS OF SELF

	COGNITIVE	SOCIAL	MOTIVATIONAL
VIEW OF THE DEVELOPING PERSON	-Emphasis on objective aspects of self -Person is a "knower" or "processor" of information about objective aspects of self	-Emphasis on social or relational bases of self -Person "internalizes" social communications about self	-Emphasis on emotional processes and/or organismic priorities in the development of self -Person seeks to fulfill psychological needs
ROLE OF SOCIAL CONTEXT	-Role of social context is downplayed (exceptions in Vygotsky and Fischer)	-Social surround crucial for development of self -Mechanisms/processes and levels of analyses vary	-Social context provides "nourishment" for the developing sense of self
SELF AND ACTION CONNECTIONS	-Knowledge of self regulates memory processes -Feedback from actions calibrates goals and expectancies	-Relational basis of self have implications for subsequent relationships	-Frustrated needs lead to maladaptive patterns of action -Psychological needs shape the direction of action

FIG. 2.1. Selected issues in cognitive, social, and motivational approaches to the study of the self.

Context, Self, and Actor

In a recent paper (Connell, in press), I presented the four fundamental psychological processes that self-system processes develop within particular social context most relevant to development of self-system processes: support, and involvement; a self-system processes produce enterprises. (See Fig. 2.2). The issues used to discuss the construction of self.

In this model, the development of the self-system is viewed as a set of appraisal processes within particular context: competence, autonomy, organismic priorities around model embraces a motivational

The need for *competence* defined as "the need to experience outcomes and avoiding negative outcomes" and the experience of choice in the experience of connection and values". The need for *autonomy* connected to the social surround

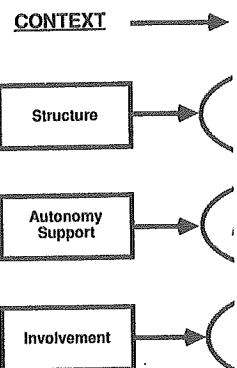


FIG. 2.2. A simple model of self, action, and outcomes.

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VS OF SELF

MOTIVATIONAL

<ul style="list-style-type: none"> -Emphasis on emotional processes and/or organismic priorities in the development of self -Person seeks to fulfill psychological needs
<ul style="list-style-type: none"> -Social context provides "nourishment" for the developing sense of self
<ul style="list-style-type: none"> -Frustrated needs lead to maladaptive patterns of action -Psychological needs shape the direction of action

and motivational ap-

Context, Self, and Action

In a recent paper (Connell, in press), a theoretical model of self-system processes was presented. The four defining features of this model are: 1) that people have fundamental psychological needs for competence, autonomy and relatedness; 2) that self-system processes develop out of the interaction of psychological needs and social context within particular cultural enterprises; 3) that the aspects of the social context most relevant to the meeting of these needs, and thus to the development of self-system processes, are the provision of structure, autonomy support, and involvement; and, 4) that inter- and intra-individual variation in self-system processes produce variability in patterns of action within cultural enterprises. (See Fig. 2.2). This model will now be examined in light of the three issues used to discuss the cognitive, social, and motivational approaches to the study of self.

In this model, *the developing person* is viewed as an active partner in the construction of the self-system from the first moments of life. The self-system is viewed as a set of appraisal processes whereby the individual evaluates his or her status within particular contexts with respect to three fundamental psychological needs: competence, autonomy and relatedness. These three needs are then the organismic priorities around which the self-system is organized. Thus the new model embraces a motivational perspective in its view of the developing person.

The need for *competence* (e.g., White, 1959; Deci & Ryan, 1985) has been defined as "the need to experience oneself as capable of producing desired outcomes and avoiding negative outcomes". The need for *autonomy* is defined as "the experience of choice in the initiation, maintenance and regulation of activity and the experience of connectedness between one's actions and personal goals and values". The need for *relatedness* "encompasses the need to feel securely connected to the social surround and the need to experience oneself as worthy

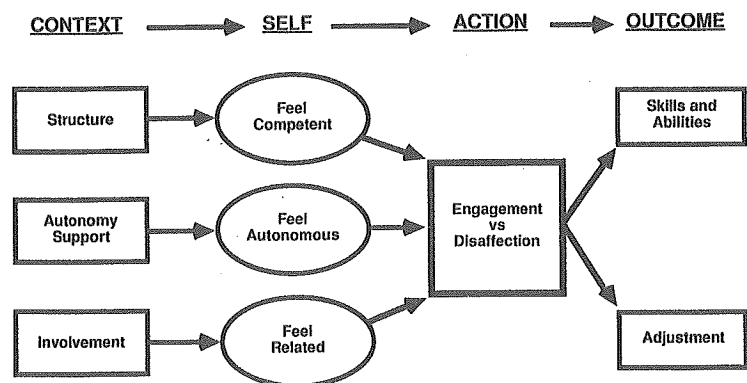


FIG. 2.2. A simple process model of the relations between context, self, action, and outcomes. (adapted from Connell, in press).

s from Connell, in press.) The item is manifested throughout at fulfill the needs for competence, subjective self, the *knower*, that e to these psychological needs. individual's appraisals of how ls within and across particular l to as self-system processes. at self-system processes developmental sociocultural and historical views of socially oriented ability in self-system processes interchanges. However, unlike to the study of self, the thesis is not from the social to the In asking "what about social system processes?", this analysis described herein and deduces about the experience of competence of the social context of most

between self and action through patterns of action are evidenced particular enterprise, as well as in preparation). When psychological enterprises such as family, school, and social context are not being met, disaffection same action components.

Self-system processes associated with social and personal adjustment of self, the self-to-action-to-outcome that guiding most studies of relations between self-perception and action are investigated. (See for example research on children's locus of control, patterns of action mediate the acquisition of specific skills

context, self, and action, and self-system processes in a variety of settings (Connell, in press, 1989), work organizations and social relationships (Connell, in

press; Connell, Bridges, & Grolnick, 1989). In the next section of the chapter, operationalizations of the various constructs in the general model within the enterprise of schooling will be presented. Data addressing linkages hypothesized in the model shown in Fig. 2.2 are discussed.

SELF-SYSTEM PROCESSES OF CHILDREN AND ADOLESCENTS IN EDUCATIONAL CONTEXTS

Schooling is clearly a central cultural enterprise in the lives of children and adolescents in many societies. The general theoretical model shown in Fig. 2.3 has been developed and refined based in large part on data collected in educational settings. Initial efforts were directed at conceptualizing and operationalizing specific self-system processes associated with psychological needs for competence, autonomy, and relatedness within the domain of school (Connell, 1985; Skinner, Wellborn, & Connell, 1990; Connell and Ryan, 1987; Connell, Wellborn, & Lynch, 1988). Next, assessments of the social context were developed (Wellborn and Connell, 1987). Recent work has focused on operationalizing dimensions and prototypes of engagement and disaffection (Wellborn & Connell, in preparation). A multimethod assessment of these variables—*The Rochester Assessment Package for Schools* (RAPS; Wellborn & Connell, 1987)—has been developed using student, teacher, and parent reports. The specific operationalizations of the variables in the model will be presented briefly. (These operationalizations are described in greater detail in Connell, in press, and in Wellborn & Connell, 1987.) Results will then be presented from studies using the RAPS instruments to assess the constructs in the general model.

Operationalization of Constructs

Perceived Strategies and Capacities for School-related Competence. In order to experience a sense of competence in school, two component self-system processes are proposed: (1) knowledge about how to do well in school, i.e., perceived strategies for achieving outcomes; and (2) beliefs that one can execute those strategies, i.e., perceived capacities. For perceived strategies, items are included that ask students about five possible strategies for doing well in school and for avoiding poor performance in school. These strategies are unknown ("I don't know how to do well/avoid failure in school"); powerful others ("I have to get teachers to like me to do well/avoid failure in school"); luck ("I have to be lucky to do well/avoid failure in school"); effort ("Working hard is the best way for me to do well/avoid failure in school"); and ability ("I have to be smart to do well/avoid failure in school").

Perceived capacity statements were derived directly from the strategy statements. Children are asked to endorse the degree to which they believe they have

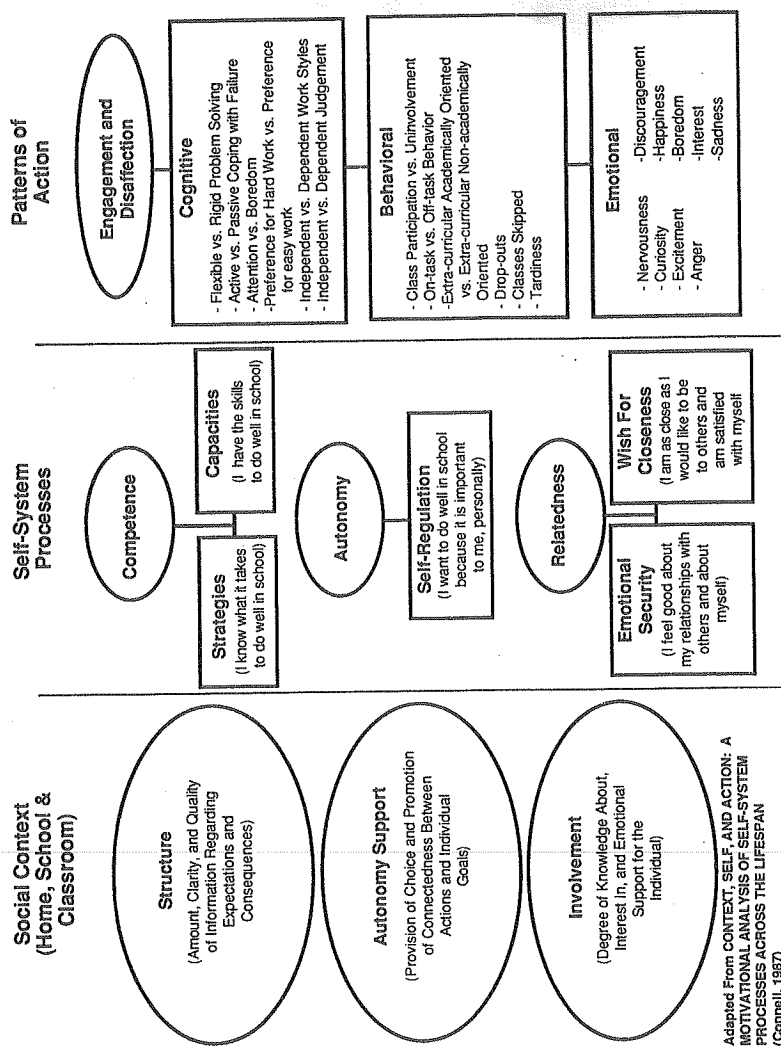


FIG. 2.3. A motivational model of context, self, and action (Connell, 1987).

strategies.¹ For example, "I statement tied to the power

Perceived Autonomy: Self-system processes assessments of students' self-regulation (Connell, 1989; Chandler, 1990). Perceived autonomy assesses student's self-regulation. *Self-regulated* students are those who enjoy the activity. These students have internalized the value of self-regulation in the classroom. They complete their homework or work when they don't. Students who have low self-esteem to the outcomes of their work "because I will feel bad about it." The most autonomous form of self-regulation is *identified self-regulation*, where students complete school goals.

Perceived Relatedness. Perceived relatedness is derived from social partners and is measured through self-reports of relationships with important social partners following the statement "When I am with my social partners, I feel...". Descriptors include happy, interested, valued, ignored. These items are pooled to form a composite reflecting high or low relatedness to a social partner.

To assess *perceived need for relatedness*, students endorse statements such as "I want to spend more time with me," "I want each social partner to be comfortable with me," and "I want each social partner to be comfortable with me." Each social partner are combined to form a composite which students want to have.

¹The absence of a strategy precludes the use of statements regarding "unknown strategies."

or do not have the capacity for executing effort, ability, powerful others, and luck strategies.¹ For example, "I can (cannot) get the teacher to like me" is a capacity statement tied to the powerful others strategy statement.

Perceived Autonomy: Self-regulatory Styles. The operationalization of the self-system processes associated with the need for autonomy involves assessments of students' self-regulatory styles (Connell & Ryan, 1984, 1987; Ryan & Connell, 1989; Chandler, 1981; Ryan, Connell & Deci, 1985). This measure assesses student's self-regulation with regard to activities in school. *Intrinsically self-regulated* students are those who engaged in school-related tasks because they enjoy the activity. These students work on hard problems, try to answer hard questions, and do their homework "because it is fun." Students who have not internalized the value of school and, therefore, have the least experience of autonomy in the classroom are *externally self-regulated*. These students complete their homework or work on hard problems "because I will get in trouble if I don't." Students who have begun to regulate their own behavior but link their self-esteem to the outcomes of their behavior (grades, test scores) are manifesting an *introjected self-regulatory style*. These students do schoolwork and homework "because I will feel bad about myself it doesn't get done." Finally, the most autonomous form of self-regulation in tasks that are not intrinsically interesting is *identified self-regulation*. Students who evidence identified self-regulation complete school-related work because "it is important for my future goals."

Perceived Relatedness. The measure of students' quality of relatedness to social partners is derived from two sets of items. *Perceived emotional security* is measured through self-reports of the emotional quality of a student's relationships with important social partners. These items are emotional descriptors following the statement "When I'm with my parent, teacher, friend, etc., I feel." Descriptors include happy, sad, angry, bored, unimportant, unhappy, and ignored. These items are positively and negatively weighted to form a single composite reflecting high or low emotional security with that particular social partner.

To assess *perceived need for a closer relationship*, students are asked to endorse statements such as "I wish I was closer to my father," "I wish my father spent more time with me," and "I wish my father knew me better." Items for each social partner are combined into a single composite reflecting the degree to which students want to have a closer relationship with that person.

¹The absence of a strategy precludes the execution of that strategy. Consequently, no capacity statements regarding "unknown strategies are presented."

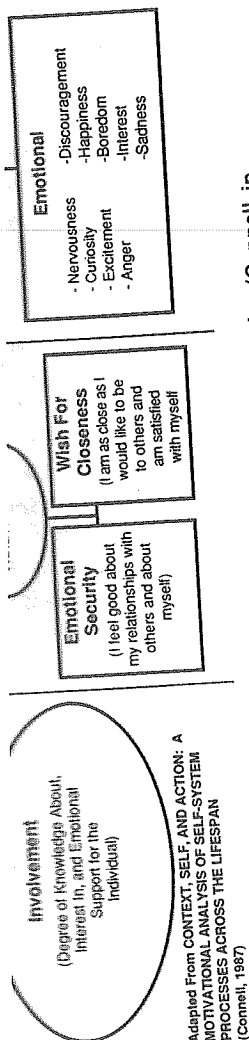


FIG. 2.3. A motivational model of context, self, and action (Connell, in press).

Social Context Variables: Structure, Autonomy Support, and Involvement. The RAPS-S contains statements that reflect the three dimensions of the social context thought to be relevant to the psychological needs for competence, autonomy, and relatedness.

Positive *structure* items on the RAPS student report are behavioral descriptions of parents communicating clear expectations for performance (e.g., "My parents let me know what the rules are about homework"); consistent consequences (e.g., "My parents always do what they say they're going to do"); optimal challenge ("My parents don't expect me to do things I can't do."); and positive competence feedback ("My parents tell me they're proud of what I've done."). Items designed to tap provision of structure by teachers refer to similar communications (e.g., "I know what my teacher(s) expect of me"; "My teacher(s) do what they say they're going to do.").

Lack of structure in the home and school context refers to students' experience of confusion about adult expectations, and unpredictable consequences. For example, in the home, "I never know what my parents expect of me in school." Lack of structure in the school context is tapped by items such as "My teacher(s) don't make it clear what they expect on school assignments; When I don't do well on a test, I never know how my teacher(s) will act."

Autonomy support refers to the amount of choice provided by teachers and parents and to helping children connect their behavior to their own personal goals and values. For example, items related to provision of choice include: "My teacher lets me do my schoolwork according to my own schedule" and "My teacher lets me make a lot of my own decisions when it comes to schoolwork." Items that assess the connection between activity and personal goals include "My parents discuss important decisions with me."

The *involvement* dimension refers to the dedication of psychological resources (e.g., time, interest) in the context of positive affect. (Grolnick & Ryan, 1987, 1989; Wellborn & Connell, 1987) The RAPS assesses each of these components with items such as: "My parents/teachers . . . know a lot about what happens to me in school; spend time helping me do better in school; seem to enjoy being with me."

Ongoing Engagement versus Disaffection and Student Prototypes of Engagement and Disaffection. *Ongoing engagement versus disaffection* is measured by asking students or teachers to rate students' typical emotion, cognition and behavior evidenced within the course of the schoolday. The emotion component is measured by emotional descriptors following the statement "When I'm (this student is) in class, I feel (this student appears) . . . The descriptors include bored, interested, discouraged, happy, and angry. Items assessing ongoing student cognition and behavior include ratings of class participation, attention, on-task behavior, flexible problem solving, and extracurricular academics.

Engagement and disaffection are measures of student's coping on a test, not being able to identify four coping styles: *denial*, where the student denies the negative event; *projection*, where the student blames others; *displacement*, where the student shifts the negative event to a safer target; and *substitution*, where the student replaces the negative event with a positive one. The RAPS-S assesses coping scores on each of the three reporters (student, teacher, and parent).

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Engagement and disaffection in the face of challenge is assessed using a measure of student's coping with perceived failure in school (e.g., not doing well on a test, not being able to answer a question in class). Tero and Connell (1984) identified four coping styles that are included in the RAPS assessments: *positive coping*, where the student actively seeks information and persists following the perceived failure; *projection*, where the student gets angry and blames others; *denial*, where the student denies the importance of the activity and seeks to avoid facing the negative event; and, *anxiety amplification*, where the student self-denigrates and becomes anxious about others' negative evaluations. Children's coping scores on each of these four dimensions are obtained from each of the three reporters (student, teacher and parent) on the RAPS measure.

STUDENT PROTOTYPES OF ENGAGEMENT AND DISAFFECTION

INNOVATIVE

This student is engaged in his schoolwork for the most part. However, he seems to march to the beat of his own drummer, achieving many of the same ends as other students but doing so in his own way. This student sometimes shows a lack of attention when material isn't of particular interest to him. He is creative and really seems to enjoy the process of learning when he is interested in the material.

ENMESHED

This student is very involved in doing schoolwork. You sometimes wonder whether she is taking school too seriously. Her self-concept is too tied up with her academic performance. Although she works very hard, she does it in a very anxious way.

CONFORMIST

This student is the prototypic, well-behaved student. He works up to his ability, follows directions, seems to know exactly how you want the assignment to be done, participates in class, and generally does everything that you expect of him. He seems quite content to follow the rules and regulations in class.

REBELLIOUS

This student acts out in class and refuses to do anything. She doesn't do her work except when forced to and resists attempts to structure her. She seems to operate under her own set of rules that are different from those of the school and the classroom.

RITUALISTIC

This student simply goes through the motions in class. He doesn't cause any serious problems. He simply does schoolwork in order to get it done, without any interest or enjoyment.

WITHDRAWN

Many times, this student appears to have given up and withdraws from class activities. She never seems to get excited about what's going on in class and only participates when you make her do so.

FIG. 2.4. Paragraph descriptions used to identify student prototypes of engagement and disaffection.

Another measure of student patterns of action in school assesses specific student prototypes within the classroom (Wellborn & Connell, in preparation). Three engaged student prototypes and three disaffected student prototypes were identified using paragraph descriptors of each student prototype (Fig. 2.4). The three engaged student prototypes are enmeshed, conformist, and innovative. The enmeshed student prototype represents students who "take school too seriously." Conformist student prototypes represent the prototypically good student who "does everything (the teacher) expects of him/her." The third engaged student prototype is labeled innovative. The innovative student prototype values school but shows inconsistency in engagement across subjects because he/she attends to activities based primarily on his or her own interest.

The three disaffected student prototypes are labeled withdrawn, ritualistic, and rebellious. Withdrawn student prototypes have "given up." The ritualistic student prototype does not seem to value school learning, although he or she will "go through the motions." The third disaffected student prototype, rebellious, represents students who are disruptive, angry, and seem to take little responsibility for their own learning in school. (For a more elaborate discussion of this general concept, see Wellborn & Connell, in preparation).

Empirical Studies of Self-System Processes in Educational Contexts

The data to be presented are taken from ongoing studies in school settings being conducted by our research group. The first set of studies examines the relations between the self-system variables, measures of student engagement and disaffection in school, and indices of student performance. Results from three samples will be reported. The first sample consists of all third through sixth grade students ($n = 245$), their teachers, and parents in a rural/suburban community participating in a longitudinal research project in which all three forms of the RAPS, student, parent, and teacher forms are administered. The second sample is 542 4th through 6th grade students from a predominantly working class, suburban school district where all three forms of the RAPS measure are administered. Finally, RAPS student-report data were collected in an urban sample (60% minority) of approximately 700 7th through 10th grade students.

This series of studies examined students' self-system processes in relation to multiple measures of engagement and disaffection in school. These assessments include teacher and student reports of engagement versus disaffection collected in the rural/suburban sample as well as teacher ratings of student prototypes of engaged and disaffected patterns of action collected in the predominantly working-class sample. A third index of engagement and disaffection was used in the urban school district (Crichlow & Vito, 1989). This index identifies students at risk for academic failure based on the presence of five behavioral indicators (Fig. 2.5). Students with three or more of these five "flags" are classified as "at-risk."

- Students
following criterion
1. Standardized score at or below percentile 25
 2. Core Academic Achievement Scale score below the following cutoff
 3. Long-term instructional delay
 4. Age Related Reading Achievement score for grade level
 5. Average daily attendance during the academic year
- (from Crichlow & Vito, 1989)

FIG. 2.5. Criteria for classifying students at risk for academic failure (Vito, 1989).

Relations between these indicators and the set of self-system processes, engagement, and relatedness will be reported.

Perceived Competence

The most extensive investigation of the area of perceived competence research on this and related variables has been demonstrated. Relations between perceived competence and patterns of action in school have been theoretically derived and shown to be particularly relevant in school settings.

Path analyses revealed that perceived competence is a significant predictor of perceived competence and academic achievement obtained for a direct relation between perceived competence and academic achievement and disaffection. Relations between perceived competence and engagement partialled out the influence of perceived competence between self and academic achievement. School performance on children's self-reports of perceived competence may calibrate performance feedback such as grades.

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Students who are characterized by three or more of the following criteria are considered to be "at-risk" for academic failure.

1. **Standardized Achievement Test Scores.** Total reading score at or below 36 percentile and total math score at or below 37 percentile or either score below the 15 percentile.
2. **Core Academic Subject Failure.** Failure of two or more of the following core subjects: English, math, social studies, science.
3. **Long- or Short-Term Suspension.** Two or more instructional days lost due to suspension.
4. **Age Relative to Grade in School.** One or more years over-age for grade level.
5. **Average Daily Attendance.** Absent 19 percent or more days during the academic year.

(from Crichlow & Vito, 1989)

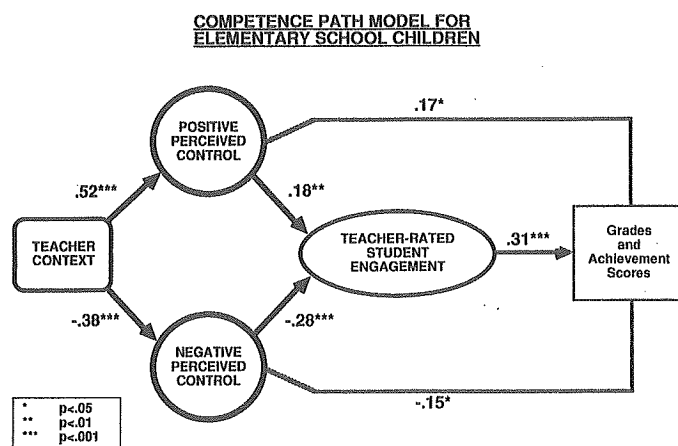
FIG. 2.5. Criteria for classifying students as "at-risk." (Crichlow & Vito, 1989).

Relations between these indicators of engagement and disaffection in school and the set of self-system processes associated with the needs for competence, autonomy, and relatedness will now be presented.

Perceived Competence

The most extensive investigation of relations between self and action has been in the area of perceived competence. As predicted by the model and by previous research on this and related constructs (see Skinner, this volume), consistent relations have been demonstrated between beliefs about perceived competence and patterns of action in school. As part of a recent study (Skinner, et al., 1990), theoretically derived combinations of these competence-related beliefs were shown to be particularly relevant for undermining or promoting engagement in school.

Path analyses revealed direct relations between positive and negative aspects of perceived competence and student engagement (Fig. 2.6). Support was also obtained for a direct relation between teacher reports of student engaged versus disaffected patterns of action in school and important school outcomes such as academic achievement and grades. In addition, low but significant direct relations between perceived control and grades and achievement were obtained with engagement partialled out of the outcome variables. These residual relations between self and academic outcomes may be due to reciprocal effects of actual school performance on children's beliefs about their own competence. For example, children may calibrate their perceived competence based directly on performance feedback such as grades and test scores. A longitudinal investigation of



(from Skinner, Wellborn, & Connell, 1989)

FIG. 2.6. Path analysis of the antecedents and consequences of perceived competence for a rural/suburban elementary school sample (grades 3–6, $n = 220$). Positive perceived competence is a combination of control-related beliefs hypothesized to promote engagement. Negative perceived competence is a combination of beliefs hypothesized to undermine engagement. Teacher context is children's perceptions of teacher contingency and involvement combined. (from Skinner, et al., 1990)

these feedback effects is currently under way (Skinner, 1990; Connell & Wellborn, in preparation).

The second set of results includes relations between students' perceived strategies and capacities and teacher reports of student engagement and disaffection in the suburban, working class sample. For these analyses, students were rated by their teacher as either *good* or *poor* exemplars of each prototypic pattern of engagement and disaffection using the RAPS teacher report form shown in Fig. 2.4. Good and poor exemplars of each prototype were then compared on their perceived strategies and capacities for doing well in school. Only data on the three disaffected prototypes will be reported here.

As can be seen in Fig. 2.7, each of the three disaffected prototypes has a distinctive profile of perceived strategies and capacities. The rebellious and ritualistic prototypes share the beliefs that they cannot put out effort in school and that pleasing powerful others (teachers) is the way to do well in school. These prototypes diverge in that the ritualistic prototype is marked by reports of not knowing what it takes to do well or avoid failure in school and by low perceived ability. The withdrawn prototype shows a completely distinctive profile on these self-system variables reporting that luck is what counts in school and that they

Predict
Disaffe

STRATEGIES

Unknown
 Effort
 Ability (Failure)
 Powerful Others
 Luck

CAPACITIES

Effort
 Ability
 Powerful Others
 Luck

$$r = .3 - .45$$

$$r = .46 - .55$$

$$r = .56 - .65$$

FIG. 2.7. Comparison exemplars of each prototype on perceived competence.

are unlucky. These withdrawn students are unlikely to be liked by their teacher to like them. The idiographic approach to the

A third set of studies in perceived competence and the action. In the urban district "nonlabeled" based on the liar (Crichlow & Vito, 1981) were then examined to determine capacity variables would be disaffected groups of students senior high school students unknown, powerful others,

Predictors of Teacher-Rated Prototypes of Disaffected Elementary Students (N = 241)

	RITUALISTIC	REBELLIOUS	WITHDRAWN
STRATEGIES			
Unknown	+		
Effort			
Ability (Failure)	+	+	
Powerful Others			+
Luck			
CAPACITIES			
Effort	—	—	
Ability	—		
Powerful Others			—
Luck			—

$r = .3 - .45$	+	—
$r = .46 - .55$	⊕	⊖
$r = .56 - .65$	⊕	⊖

FIG. 2.7. Comparisons of students rated by their teachers as good exemplars of each prototype with those rated as poor exemplars of each prototype on the self-system processes associated with perceived competence.

and consequences of permanent school sample competence is a combination of engagement. Negative beliefs hypothesized to children's perceptions of school. (from Skinner, et al.,

Skinner, 1990; Connell & Well-

When students' perceived strategies, engagement and disaffection analyses, students were rated of each prototypic pattern of behavior report form shown in Fig. were then compared on their performance in school. Only data on the

disaffected prototypes has a capacities. The rebellious and effort put out effort in school and to do well in school. These is marked by reports of not school and by low perceived by distinctive profile on these students in school and that they

are unlucky. These withdrawn students also report not being able to get the teacher to like them. These data encourage us to continue using this more idiographic approach to the study of engaged and disaffected patterns of action.

A third set of studies in the urban sample examined linkages between perceived competence and the five behavioral indicators of disaffected patterns of action. In the urban district, students were classified as either "at risk" or "nonlabeled" based on the "5-Flag" at-risk classification system described earlier (Crichlow & Vito, 1989). Mean level differences between these two groups were then examined to determine whether the perceived strategy and perceived capacity variables would significantly discriminate between the engaged and disaffected groups of students. The profile differences were clear. Junior and senior high school students labelled *at risk* reported significantly higher levels of unknown, powerful others, ability, and luck strategies for achieving success and

avoiding failure in school than did their nonlabeled classmates. These at-risk students also reported significantly lower capacities to execute these more highly endorsed strategies. Interestingly, the two groups did not differ on their endorsement of effort as an effective strategy (both groups were very high), but the at-risk group reported much lower capacities to produce effort in school. (See Skinner et al., 1990; and Skinner, this volume, for a further discussion of how competence-related self-system variables relate to action.)

Studies to date have provided consistent support for the hypothesized relations between competence-related self-system variables and patterns of action in school. Children's engagement has been shown to be uniquely predicted by capacity and strategy beliefs that combine to undermine or promote engagement. According to the model, self-system processes associated with the other needs (autonomy and relatedness) should also contribute directly to the patterns of action and indirectly to performance in this domain. Results pertaining to these hypotheses will now be presented.

Perceived Autonomy

Relations obtained between perceived autonomy and patterns of action in school have confirmed the importance of this construct in this domain (see Connell & Ryan, 1987; and Ryan & Connell, 1989, for reviews). According to the model, engagement in school should be associated with the degree of autonomy experienced in the regulation of achievement-related behaviors. For example, children who report doing their homework "because it's fun or interesting" should show different patterns of cognition, behavior and emotion than children who are doing their homework "because they'll get in trouble if they don't". In order to examine these hypothesized relations, correlations were obtained between perceived autonomy (Relative Autonomy Index), teacher reports of student engagement, and a composite index of school performance.²

In the rural/suburban elementary sample, the correlations between the Relative Autonomy Index and the engagement and performance measures were $r_s = .24$ ($p < .001$) and $.12$, ($p < .10$) respectively. Path analyses were then conducted to test for the hypothesized direct and indirect effects of perceived autonomy on engagement and performance. The results of the path analysis shown in Fig. 2.8 support the hypothesized relations. Children who report higher levels of

²Perceived autonomy is assessed using a composite of the self-regulatory styles ordered along a continuum, from external regulation to introjected regulation to identified regulation to intrinsic regulation (Connell and Ryan, 1987; Ryan, Connell, and Grolnick, in press). The teacher report of ongoing engagement versus disaffection is composed of 14 items that tap emotion and behavior in the class. Finally, academic performance is assessed by a composite score of grade point average and achievement test scores as described in the Skinner et al. study. 1990

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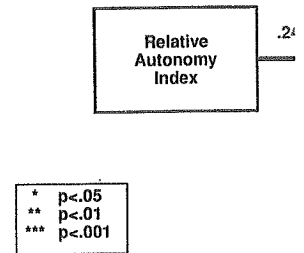


FIG. 2.8. Path analysis associated with auto disaffection in school elementary-school sample.

perceived autonomy are related to school performance and show higher levels of engagement. In the urban sample, a significant correlation between the relative autonomy index and school performance was also found.

Differences in perceived autonomy between the urban and rural/suburban samples were also significant. The Relative Autonomy Index score for the urban sample was significantly lower than for the rural/suburban sample. In the urban sample, autonomy differences were also found for the prototypes of engaged and disengaged students. For example, innovative students showed higher levels of intrinsic self-regulation than disengaged students. Disengaged students are considered to be less intrinsically motivated and less engaged in their patterns of action. Innovative students show significantly lower levels of disengagement than disengaged students just do.

Like perceived competence, perceived autonomy is related to students' patterns of action. Support for the hypothesized relations between perceived autonomy and performance outcome was found in the urban sample. Children and adolescents who report higher levels of perceived autonomy in school show patterns of action that are associated with higher levels of performance.

led classmates. These at-risk students did not differ on their endorsements (all were very high), but the at-risk students produced less effort in school. (See also a further discussion of how to increase effort.)

for the hypothesized relations between self-system processes and patterns of action in school. Results pertaining to these

patterns of action in school. Results pertaining to these

relations between the Relative Autonomy Index and teacher-rated student engagement.

self-regulatory styles ordered along a continuum from identified regulation to intrinsic regulation (see Connell & Collins, 1990). The teacher report of student engagement and behavior in the classroom was also related to the score of grade point average and

AUTONOMY PATH MODEL FOR ELEMENTARY SCHOOL CHILDREN

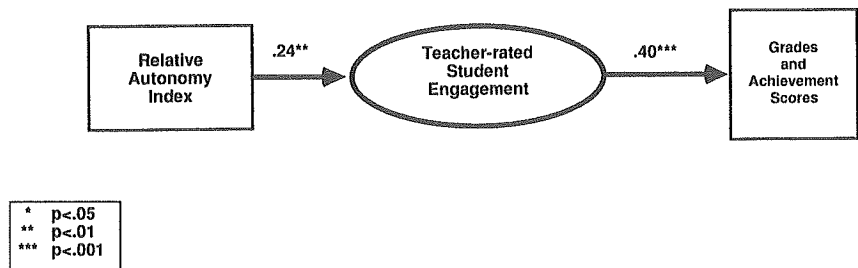


FIG. 2.8. Path analysis of relations between self-system processes associated with autonomy, teacher-rated student engagement versus disaffection in school, and academic performance for a rural/suburban elementary-school sample (grades 3 to 6, $n = 220$).

perceived autonomy are reported by their teachers to be more engaged in class and show higher levels of school performance. In the suburban working-class district, a significant correlation ($r = .31, p < .001$) was also obtained between the relative autonomy index and teacher reports of student engagement and disaffection.

Differences in perceived autonomy between at-risk and nonlabeled students in the urban sample were also examined. At-risk students ($M = 7.39, SD = 3.2$) were significantly lower than the nonlabeled students ($M = 7.96, SD = 3.3$) on the Relative Autonomy Index ($t = 2.24, p < .05$). In the working-class suburban sample, autonomy differences were also evident between the elementary student prototypes of engaged and disaffected patterns of action as rated by teachers. For example, innovative student prototypes report significantly higher levels of intrinsic self-regulation than enmeshed student prototypes although both prototypes are considered to be engaged in their school work. It appears that enmeshed students, while clearly working hard and doing well in school, are doing so for less intrinsic reasons than are students who are seen as more creative and innovative in their patterns of action in school. In contrast, withdrawn students show significantly lower levels of intrinsic regulation than either of the two engaged prototypes just described.

Like perceived competence, perceived autonomy shows consistent empirical relations to students' patterns of action in school in diverse student populations. Support for the hypothesized direct and indirect relations between self, action, and performance outcomes was also obtained in the suburban/rural elementary sample. Children and adolescents who experience themselves as regulating their own behavior in school are more engaged in this domain and these engaged patterns of action are associated with higher levels of academic accomplishment.

Perceived Relatedness

The final set of self-system processes included in the theoretical model are those associated with the need for relatedness to others and self. Associations between general self-esteem and adaptive patterns of behavior in the academic domain are well-documented (e.g., Coopersmith, 1967; Rosenberg, 1965; Harter, 1982). Less well-documented are relations between the quality of relatedness children *experience* with various social partners and their motivation in the school setting. Considerably more attention has been paid to the behavior and attitudes of parents (e.g., Baumrind, 1971; Grolnick & Ryan, 1989) and teachers (e.g., Deci, Schwartz, Scheinman, & Ryan, 1981; Brophy, 1986; Dweck & Elliot, 1983) as predictors of student behavior and performance. In the results reported below, correlations were obtained between a) the degree of emotional security experienced by children in their interactions with parents, teachers, and classmates; b) the engagement shown by the students in class as reported by the children's teachers; and, c) an academic performance composite of grades and achievement test scores. As shown in Fig. 2.9, emotional security with all three sets of social partners is significantly associated with teacher ratings of engagement in school. Interestingly, *none* of the relatedness variables is significantly correlated with the academic performance composite.

Next, path analyses were conducted to test for two indirect effect of relatedness on academic performance: one from relatedness with teachers and peers through engagement; and one from relatedness with parents through relatedness with teachers and peers and *then* through student engagement to student performance. The hypothesis was that children's experience of emotional security with their parents may affect their engagement in school indirectly through the quality of the relationships with others more proximally situated in a particular enterprise (in this case teachers and classmates). The results of the path analysis shown in Fig. 2.10 provided preliminary support for both of these hypotheses.

	Teacher-reported Engagement vs. Disaffection	Academic Performance
Emotional Security With Parents	.13*	.08
Emotional Security With Teacher	.23***	.004
Emotional Security With Peers	.21***	.09

FIG. 2.9. Correlations of self-system processes associated with relatedness to others with teacher-rated student engagement and academic performance.

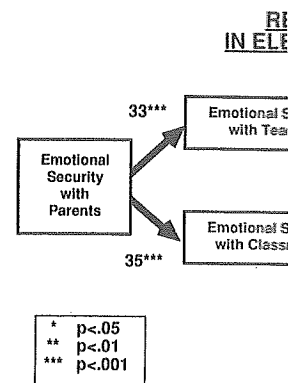


FIG. 2.10. Path analysis of teacher ratings of student engagement and academic performance in a primary-school sample.

This absence of a direct effect of emotional security with parents on school achievement (highlighted in the general model. Without children's feelings of emotional security with parents, their school accomplishments are reduced, which in turn predicts disaffection as a quality of school engagement by self-system functioning process whereby beliefs are formed.

These findings also suggest that children's relationships with their parents influence their engagement in school; in this path of influence has not been behavior (e.g., helping behaviors and aspirations regarding infant- and toddler-parent relationships predicted with other adults and peers (Belsky, 1988; Lynch & Vondra, 1990). The quality of these relationships has significant consequences for the child's engagement in school.

Future work with the

RELATEDNESS PATH MODEL IN ELEMENTARY SCHOOL CHILDREN

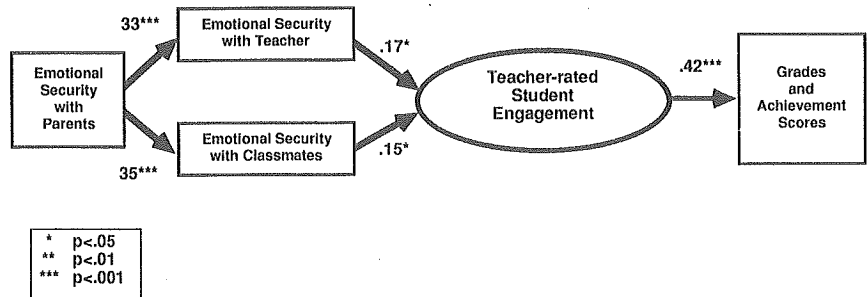


FIG. 2.10. Path analysis of relations among relatedness variables and teacher ratings of student engagement in a rural/suburban elementary-school sample (grades 3 to 6, $n = 220$).

the theoretical model are those and self. Associations between for in the academic domain are enberg, 1965; Harter, 1982). quality of relatedness children otivation in the school setting. he behavior and attitudes of n, 1989) and teachers (e.g., phy, 1986; Dweck & Elliot, mance. In the results reported degree of emotional security parents, teachers, and class- s in class as reported by the nce composite of grades and otional security with all three ith teacher ratings of engage- ness variables is significantly site.

two indirect effect of related- ness with teachers and peers h parents through relatedness ngagement to student perfor- ce of emotional security with indirectly through the quality ated in a particular enterprise of the path analysis shown in f these hypotheses.

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This absence of a direct relation between self-system processes (in this case emotional security with others) and domain-specific performance (in this case school achievement) highlights the importance of the engagement construct in the general model. Without it, the inference from correlational data would be that children's feelings of emotional security with others in school are unrelated to their school accomplishments. As the results of the path analysis show, emotional security with classmates and teachers uniquely predict engaged patterns of action which *in turn* predict school performance. By postulating engagement and disaffection as qualities of action that directly affect performance and are affected by self-system functioning, a more detailed empirical picture emerges of the process whereby beliefs about self affect culturally defined performance outcomes.

These findings also suggest that one way in which children's relationships with their parents influence school engagement is through the influence that parent-child relations have on the quality of students' relationships with significant others in school; in this case, classmates and teachers. This "relational" path of influence has not been as fully examined as have the influences of parent behavior (e.g., helping behavior, monitoring school progress) and parent attitudes and aspirations regarding school achievement. Evidence from research on infant- and toddler-parent relationships also suggests that the emotional quality of these relationships predicts the emotional quality of the child's relationships with other adults and peers in different interactive contexts (Bridges, Connell, & Belsky, 1988; Lynch & Wellborn, 1989). These studies also reveal that the quality of these relationships with other social partners has important consequences for the child's engagement in these situations.

Future work with the relatedness constructs will explore *configural* ap-

proaches to relations between emotional security and need for closeness to others as two dimensions of relatedness (Connell, Wellborn, & Lynch, in preparation). For example, children who report high need for a closer relationship with a social partner (parent, peer, teacher) and low emotional security should show qualitatively different patterns of action than when low emotional security is accompanied by reports of *low* need for closer relationship. We are currently exploring the ways in which these self-system processes are linked to patterns of action in multiple cultural enterprises such as in- and out-of-school peer networks (Skinner & Kindermann, 1989) and in different populations of children (e.g., abused and neglected children) (Lynch, Wellborn, Cicchetti, & Connell, 1989).

Context to Self-linkages

As discussed earlier, three dimensions of the social context are hypothesized to directly influence the development of self-system processes: *autonomy support, structure, and involvement*. According to the model, it is children's *experience* of these motivationally relevant aspects of the social environment that contributes to the development of their self-system. Thus, studies of the contextual aspect of this model focused on children's *perceptions* of the social context and specifically the degree of autonomy support, structure, and involvement experienced at home and in school (Connell & Ryan, 1987; Ryan & Grolnick, 1986; Skinner et al., 1990).

In these studies, student perceptions of the structure, autonomy support, and involvement have consistently shown the predicted pattern of correlations with the self-system processes associated with each of the needs (e.g., Fig. 2.6). For example, elementary school children's experience of structure in their homes and classrooms is consistently negatively associated with their reports of not knowing strategies for achieving success and avoiding failure in school; and, significantly, but less strongly, with their reports that being lucky and getting powerful others to like them are the ways to get ahead in school. These findings suggest that children who experience clear expectations regarding their schoolwork, are optimally challenged, and receive consistent, competence-related feedback will better understand what it takes to do well in school. Conversely, the experience of labile or overly stringent expectations and inconsistent consequences may result in the child's not knowing how to go about doing well in school and/or lead to the beliefs that success and failure are due to the whims of others or to fate.

Both maternal and paternal *involvement* as reported by students has been found to correlate positively with children's perceived capacities for effort and ability and with their reported emotional security with their parents. The dedication of time and effort by parents in the context of positive affect may be the matrix in which children can safely test their developing competencies. Then, by repeatedly observing the successful application of these efforts, children can

develop adaptive beliefs eventually about their abil

Grolnick and Ryan (19) derive a rating of the degree of control (a forerunner of strategies and capacities). Researchers found that children reported *high levels of uncertainty*. Ryan also report significant parental *involvement* and conceptually akin to the model in the RAPS). This study, using support to the hypothesized and involvement and the need for competence.

In a third set of related studies, parents and teachers of the *structure* autonomy support to schoolwork. In addition, give their best estimate of structure, and vice versa. When compared on these parent risk" using criteria similar to children were selected randomly.

Both sets of adults reported with the "at risk" group by groups. However, when the findings (teachers reporting on a different pattern of findings showing similar levels of involvement to the "at risk" group).

These findings, while not involving self-system variables, teachers report providing more support than do parents in the model, these at-risk student self-system processes associated with report findings, suggesting themselves as providing less about *adult* self-system processes also reveal a negative correlation between teachers such that disaffected

and need for closeness to others (e.g., Grolnick & Lynch, in preparation). The user relationship with a social environment should show that low emotional security is related to the relationship. We are currently testing these hypotheses and are linked to patterns of out-of-school peer networks in populations of children (e.g., Cicchetti, & Connell, 1989).

In this context are hypothesized to be processes: *autonomy support*, *structure*, and *involvement*. First, it is children's *experience* of the social environment that contributes, studies of the contextual variables of the social context and structure, and involvement experience (e.g., Ryan & Grolnick, 1986;

structure, autonomy support, and involvement) and a pattern of correlations with the needs (e.g., Fig. 2.6). For example, structure in their homes and in their reports of not knowing in school; and, significantly, and getting powerful others. These findings suggest that when they do their schoolwork, are competence-related feedback will be. Conversely, the experience of consistent consequences may be doing well in school and/or to the whims of others or to

supported by students has been reduced capacities for effort and from their parents. The dedication of positive affect may be the driving competencies. Then, by making these efforts, children can

develop adaptive beliefs about their own capacities to produce effort and eventually about their ability to do well in school.

Grolnick and Ryan (1989) used clinical interview techniques with parents to derive a rating of the degree of structure and involvement present in the home context. They also administered Connell's (1985) measure of children's perceptions of control (a forerunner of the RAPS student report assessment of perceived strategies and capacities). Consistent with the model predictions, these researchers found that children who had home contexts rated as *low in structure* reported *high levels of unknown control* on the Connell measure. Grolnick and Ryan also report significant positive relations between the clinical ratings of parental *involvement* and children's *perceived cognitive competence* (a measure conceptually akin to the measure of perceived effort and ability capacities from the RAPS). This study, using ratings of clinical interview material, lends further support to the hypothesized linkage between the contextual variables of structure and involvement and the two sets of self-system processes associated with the need for competence.

In a third set of related studies, questionnaire assessments were obtained from parents and teachers of the suburban working-class sample asking how much *structure* autonomy support, and *involvement* they provide their children in relation to schoolwork. In addition, teachers were asked to report for themselves and give their best estimate of the parents' degree of involvement and provision of structure, and vice versa. Two groups of junior high school students were then compared on these parent and teacher reports: one group had been labeled "at risk" using criteria similar to those described in Fig. 2.5; the other group of children were selected randomly from the same classrooms.

Both sets of adults reported that they were less involved and more controlling with the "at risk" group but that they provide similar levels of structure to both groups. However, when the cross-reports of the parents and teachers were examined (teachers reporting on parents and parents reporting on teachers), a very different pattern of findings emerged: teachers and parents report each other showing similar levels of involvement and autonomy support but providing less structure to the "at risk" group than the random group.

These findings, while not directly addressing the linkages between contextual and self-system variables, do suggest that, in this sample, both parents and teachers report providing disaffected students with *less* involvement and autonomy support than do parents of non-labeled students. However, according to the model, these at-risk students need *more* involvement and autonomy support if the self-system processes associated with engagement are to be enhanced. The cross-report findings, suggesting that teachers and parents see each other but not themselves as providing less structure to the "at risk" students, may tell us more about *adult* self-system processes than the children's motivation. These results also reveal a negative vortex for these disaffected youth, their families, and their teachers such that disaffected patterns of behavior by the children are being met

by the adults with less involvement and more controlling behavior. According to the model, this withdrawal of autonomy support and involvement will further erode the motivational foundation for adaptive self-system functioning and future engagement.

Summary of Findings

Results from a program of school-based research provide evidence for the validity of the model within this domain. At this point, almost all findings are based on cross-sectional data. Thus, these results can only be interpreted as suggestive of the proposed causal influences specified in the model. What is encouraging about these cross-sectional findings is that: (a) The operationalizations of these constructs appear to work as expected theoretically; (b) Initial support for the selected linkages in the model has been obtained; and, (c) Multiple reporters' perspectives on these variables (children, teachers, and parents) help provide access to some of the transactional processes at the core of this conceptualization.

Interactive and Dynamic Relations Among Competence, Autonomy, and Relatedness Needs in Educational Settings

Data presented here and elsewhere suggests that self-system processes emerging from children's social interactions with parents, teachers, and peers affect the degree and pattern of children's engagement and disaffection in school. In this chapter, research findings were presented separately according to which of the three psychological needs was being discussed. However, an important principle underlying the model is that the experience of these three needs is simultaneous; at times complementary, at times competitive, but always as part of a single, dynamic system. In this section, consideration will be given to the interactive and dynamic interrelations of the three needs as they are manifested within the educational enterprise. Empirical investigation of these interrelations is just beginning; a brief discussion of these issues will serve to highlight current directions for these studies.

Interactive Relations. Interactive relations among the psychological needs would hold if the effects of competence-related self-system processes were moderated by autonomy-related self-system processes. For example, a child's not knowing why he or she succeeds or fails at a particular task (unknown strategy) could increase engagement in that task if the child is doing the task just for the enjoyment of doing it (intrinsic regulation). However, the same unknown strategy could produce disaffection if the child was doing the task because "I'd be ashamed if I didn't do it" (introjected regulation) or because "I get yelled at if I don't do it" (eternal regulation). In this case, the effects of self-system processes

associated with the need for self-system processes in the (1986).

Teacher-child relatedness their effects on children's (difficulty trying hard in school relationship with their teacher with similarly problematic, with their teacher. For the of the problematic competence continue engaging in achievement could then eventuate in progress try hard in school.

Dynamic Relations. Dynamic when the needs come into the needs are aligned in a system. While conceptual and statistical interactive effects among sets empirical tests for dynamic processes present a formidable challenge and Lynch (1989) has pointed elementary dynamics between young adulthood. Emde and dynamic interrelations between Mahler and her colleagues (1975).

Given that the ostensible intellectual competence, we educational dynamics between (indeed, if institutional structures students' needs for autonomy and institutional goals for competence and relatedness may occur. participants. For example, in "teacher-" and "child-proof prove teaching and learning competence in the process. We go about executing these teaching execute them. But, teachers and curricula. In this case, the loss the potential benefits of clear strategies. These competitive dynamics resulted in more "ritualistic"

rolling behavior. According to and involvement will further self-system functioning and future

provide evidence for the validity, almost all findings are based on and may be interpreted as suggestive of a model. What is encouraging is the operationalizations of these needs; (b) Initial support for the model; and, (c) Multiple reporters' (teachers, and parents) help provide the core of this conceptualiza-

If self-system processes emerging in children, teachers, and peers affect the child's disaffection in school. In this study, according to which of the three needs is simultaneous; it is always as part of a single, self-system. It will be given to the interactive effects of these needs. These interrelations are just being used to highlight current direc-

Along the psychological needs, self-system processes were modeled. For example, a child's not completing a task (unknown strategy) is doing the task just for the teacher. However, the same unknown strategy is doing the task because "I'd be yelled at" because "I get yelled at if I don't complete the task." Effects of self-system processes

associated with the need for competence are interacting with autonomy-related self-system processes in their impact on patterns of action (Skinner & Connell, 1986).

Teacher-child relatedness may also interact with competence-related beliefs in their effects on children's engagement. Children who report they are having difficulty trying hard in school (low effort capacity) but who say they have a good relationship with their teacher may experience less disaffection than children with similarly problematic, competence-related beliefs and a poor relationship with their teacher. For the first set of children, relatedness may buffer the effects of the problematic competence-related beliefs and allow these children to continue engaging in achievement-related behaviors. This continued engagement could then eventuate in progressively more positive beliefs about the capacity to try hard in school.

Dynamic Relations. Dynamic relations among the psychological needs exist when the needs come into conflict or tension (competitive dynamics), or when the needs are aligned in a synergistic configuration (complementary dynamics). While conceptual and statistical models exist for describing and evaluating interactive effects among sets of variables, developing conceptual models and empirical tests for dynamic relations among the three sets of self-system processes present a formidable challenge. Recent work by Ryan (in press) and Ryan and Lynch (1989) has pointed to the possibilities both of competitive and complementary dynamics between autonomy and relatedness during adolescence and young adulthood. Emde and Buchsbaum (in press) have also discussed the dynamic interrelations between these two needs over the first years of life as have Mahler and her colleagues in their object relations framework (Mahler et al., 1975).

Given that the ostensible mission of schools is to promote academic and intellectual competence, we might expect competitive and complementary motivational dynamics between competence and the other needs to be present. Indeed, if institutional structures exist that are not sensitive to teachers' and students' needs for autonomy and relatedness, competitive dynamics between the institutional goals for competent performance and individual needs for autonomy and relatedness may occur. The result would be increased disaffection of the participants. For example, many school systems have adopted what are called "teacher-proof" and "child-proof" curricula. The intent of these curricula is to improve teaching and learning and to enhance students' and teachers' sense of competence in the process. Most teachers report a firm understanding of how to go about executing these teaching methods and a belief in their own capacity to execute them. But, teachers also report feeling controlled and pressured by these curricula. In this case, the low autonomy afforded by these curricula undermines the potential benefits of clearly defined expectations and teaching/learning strategies. These competitive dynamics between competence and autonomy have resulted in more "ritualistic" patterns of disaffection both in children and teach-

ers rather than the increased engagement that was expected. Synergistic or complementary dynamics between the three needs within the enterprise of schooling are more difficult to identify. While the paths to disaffection are clearly marked, for many children the path to optimal engagement is difficult to find. Ideally, when the child is being optimally challenged (perceived competence) on a task that is meaningful and/or fun (perceived autonomy) and when others involved in the activity are experienced as emotionally supportive (perceived relatedness), synergy will occur resulting in optimal engagement. One important step toward these ideal conditions may be to expand the priorities of schools to include *engagement* in learning as a central institutional goal along with meeting certain performance standards. How the new motivational model can be used to inform such reform efforts will be discussed in the final section of the chapter.

SUMMARY OF THE MODEL

The model of self-system processes presented in this chapter draws on the rich and varied tradition of motivational, social, and cognitive/action perspectives on the development of self. What is *distinctive* about the model is also directly related to these historical influences. The *motivational* analysis of the three psychological needs for competence, autonomy, and relatedness guided the selection of the self-system processes to be included in the model. *Social* perspectives informed the conceptualization of the three aspects of the social context most relevant to the meeting of the three needs. And, concerns about how self-related attitudes, values, and beliefs are connected to action, so central to *cognitive/action* formulations, led to the inclusion of patterns of engagement in the model.

In this chapter, theoretical relations between this new model of self-system processes and other perspectives on the development of self have been described. Applications of the model to the enterprise of schooling, and specifically to *students'* self-system processes, have also been presented. In the concluding discussion, speculations will be offered as to how this model may be useful in designing social contexts that facilitate engagement in cultural enterprises such as school.

IMPLICATIONS OF THE MODEL FOR INSTITUTIONAL REFORM

The discussion that follows is based on our ongoing collaborative efforts with colleagues in educational settings to enhance student and teacher motivation through institutional reform (Connell, Wellborn, and Pierson, 1989). These efforts are just beginning, but two concepts are emerging as central. The first is that the theoretical constructs in the model can be and must be applied to the

multiple constituencies involved in the enterprise of schooling: parents, teachers, etc.. Students cannot provide an adequate knowledge of the social context of their learning. The second concept is that the model is a set of embedded contexts that influence interactions. In this conclusion, we will be illustrated using examples from colleagues.

Self-system Processes

Theory and experience in the enterprise of schooling to improve the motivational development of children, are themselves embedded in the classroom. The degree to which teachers' own needs for competence, autonomy, and relatedness are met in their professional lives, and the teacher self-system processes in the enterprise are explicitly related to each other. The same motivational issues are embedded in the transactional processes of the classroom.

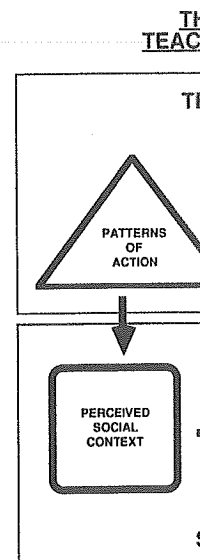


FIG. 2.11. The transactional process.

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multiple constituencies involved in the educational enterprise including students, parents, teachers, etc.. Studying the self-system processes of students alone does not provide an adequate knowledge base to guide effective institutional reform. The second concept is that motivationally relevant information is drawn from a set of embedded contexts that include and also emanate beyond immediate social interactions. In this concluding section, these two concepts will be briefly elaborated using examples from our collaborative research efforts with school-based colleagues.

Self-system Processes in Teachers

Theory and experience in working with school systems suggest that efforts to improve the motivational quality of children's lives in school are significantly enhanced by recognizing that teachers, as providers of motivational nutrients to children, are themselves embedded in a social context above and beyond that of the classroom. The degree to which these social contexts facilitate or inhibit teachers' own needs for competence, autonomy, and relatedness affects teachers' engagement in their professional activities. By extending the model to issues of teacher self-system processes, multiple constituencies within the educational enterprise are explicitly recognized as having common motivational needs and as contributing to each others' fulfillment of these needs. When we recognize that the same motivational issues are shared by teachers and students and then examine transactional processes affecting students' and teachers' engagement, our

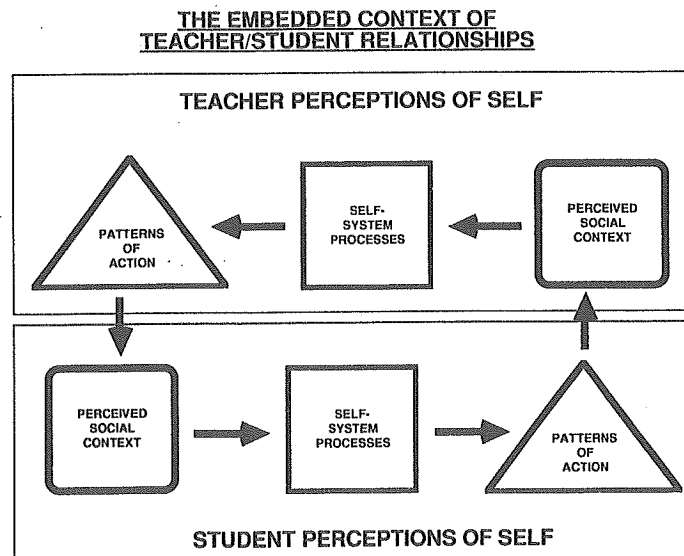


FIG. 2.11. The transactional context of teacher-student relationships.

efforts to improve the quality of these interactions have been enhanced considerably.

Current investigations of *teachers'* self-system processes focus on how teachers' experiences of competence, autonomy and relatedness are influenced by *teachers'* perceptions of the degree of autonomy support, structure, and involvement provided in their work context. Following these initial studies, two additional hypotheses regarding transactional processes between students and teachers will be explored: first, that teachers' engagement and disaffection will influence the provision of autonomy support, structure and involvement to their students; and, second, that students' patterns of action and resulting educational outcomes will be aspects of the *teachers'* social context that influence their self-system processes and patterns of engagement and disaffection in the classroom (see Figure 2.11).

Embedded Contexts

The notion of *embedded contexts* is the second concept that links the model to issues of institutional reform. Embedded contexts refer to the various sets of social and historical influences that impinge upon individuals' appraisals of self within particular enterprises. Again, our theory and experience suggest that attempts to promote meaningful institutional change will have to recognize that all participants in the educational enterprise are embedded in multiple social and temporal contexts and that these embedded contexts each, and in combination, impact these participants' experience of competence, autonomy and relatedness in their everyday lives (See Figure 2.12). The growing awareness of this concept within such traditions as life-span psychology (e.g., Lerner & Busch-Rossnagel, 1981; Bronfenbrenner, 1979) and life-span sociology (e.g., Dannefer, 1984) will make possible a deeper and more critical examination of the multiple forces impinging upon individual development. Thus far, we have conceptualized two sets of embedded contexts: *social* and *temporal*.

The social interactions between students and their teachers that are so critical to the development of their self-system processes occur within a broadening set of *social* contexts. These social contexts include the classroom, the school, the school system, the community; even, the nation. These embedded social contexts also carry many of the powerful messages that shape children's and teacher's beliefs about themselves. For example, our research in urban settings (e.g., Crichlow, 1989) suggests that many black high school children of poor families receive implicit and explicit communications of low expectations, disinterest, and suppressed opportunities that clearly inhibit these children's experiences of competence, autonomy, and relatedness in the school setting. These communications are pervasive and, in many cases, flow from all levels of these children's embedded social contexts. These communications also occur within a telescoping context of *time*: a class period, a school day, a school year, an historical period. Again, studies of these issues in urban settings reveal that children's

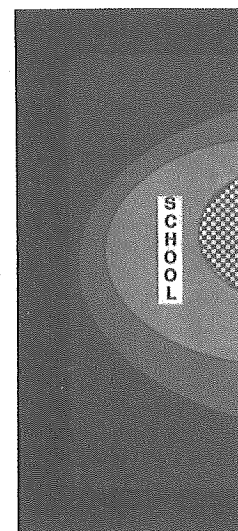


FIG. 2.12. The

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In sum, we proceed fr autonomy, and relatedness in and influenced by mult we and our school-based institutional practices and s then attempt to use this mc models for social interacti

The ideas presented in th efforts of members of the F Rochester. Substantial con Edward L. Deci, Wendy S The authors wish to thank research.

tions have been enhanced

rocesses focus on how teaching-relatedness are influenced by support, structure, and involvement. These initial studies, two additional between students and teachers, and disaffection will ensure and involvement to their attention and resulting educational context that influence their self-satisfaction in the classroom

concept that links the model to refer to the various sets of individuals' appraisals of self and experience suggest that we will have to recognize that embedded in multiple social and each, and in combination, competence, autonomy and relatedness. Awareness of this concept (Lerner & Busch-Rossnagel, 1984) will allow us to identify the multiple forces we have conceptualized two

teachers that are so critical to their success within a broadening set of contexts: the classroom, the school, the community, and the nation. These embedded social contexts shape children's and teacher's experiences in urban settings (e.g., school children of poor families, low expectations, disinterest, and children's experiences of poverty). These communication levels of these children's lives occur within a telescopic time scale: a school year, an historical period, and the lives of children's

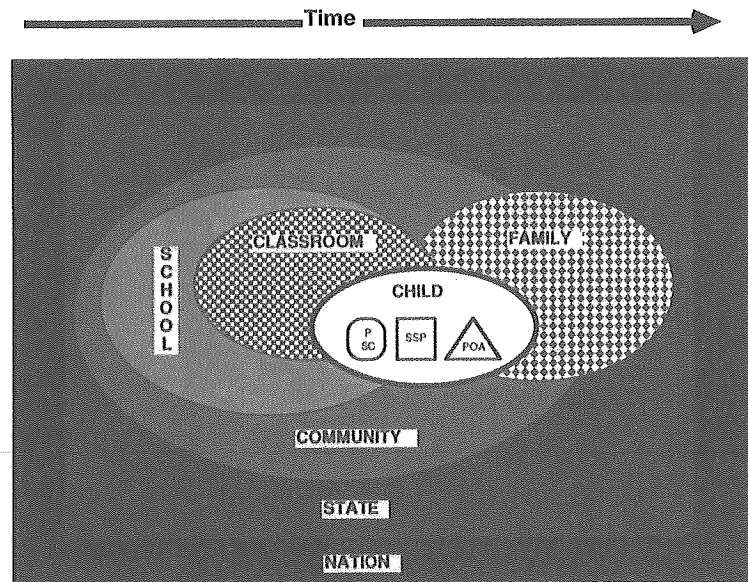


FIG. 2.12. The embedded contexts of student motivation.

beliefs about themselves are shaped not only by communications from the contemporary social contexts of the classroom, the school, and the family but also by the history of these communications in the child's own life and that of his peers, siblings, and parents.

In sum, we proceed from the assumption that the needs for competence, autonomy, and relatedness are universal psychological needs that are experienced in and influenced by multi-leveled socio-historical contexts. More specifically, we and our school-based colleagues have undertaken a critical examination of institutional practices and structures in light of these motivational issues. We will then attempt to use this motivational analysis to develop and test in practice new models for social interactions in the context of the children's everyday lives.

ACKNOWLEDGMENTS

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