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Autonomy and Relatedness as Fundamental to Motivation and Education

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ABSTRACT. The institutionalization of education in the modern era removed the processes of learning and cultural transmission from contexts in which children were often guided by adults to whom they were closely attached and from activities of significance in everyday life. Despite the arbitrary nature of modern classroom structures, it is argued that some of the fundamental needs that energized learning prior to compulsory schooling still have relevance within the classroom. The fundamental needs for autonomy and relatedness are highlighted and suggested to be strongly influenced by the quality of interpersonal conditions at home and in school. Several recent studies are reviewed that examine the effects of autonomy support and quality of relatedness with respect to motivational orientations and learning outcomes. It is concluded that the success of cognitive agendas in educational settings is dependent upon affective processes within the classroom and that the creation of an optimal classroom climate serves both learning and developmental goals.

FOR CENTURIES prior to the historically recent advent of compulsory public education, the transmission of culture occurred in ways quite different from those we use today. Vygotsky (1978), Rogoff (1990), and others describe the social context within which culture has traditionally been transmitted as one in which children participate in joint problem solving with adults. The child is thereby enabled to engage in activities beyond those that he or she is able to handle independently (Newson & Newson, 1975; Rogoff), and development occurs as the child internalizes and masters the skills and activities that originally occurred between partners (Vygotsky). These processes of apprenticeship and participant observation in the adult world allowed children to learn tasks relevant to adaptation in a self-paced, gradual manner with experts as guides and models, in the context of a purposeful, nonarbitrary activity that had visible and probably immediate utility within the larger social community.

Although few people would argue today for a return to the days in which adults' and children's worlds were so heavily intermixed and in which

education was embedded in the continuum of daily living, there is an important point to be gained by taking stock of the difference between modern schools and learning as it occurred before the advent of schools. Learning traditionally was nested within personal relationships and activities meaningful within a larger community. It took place in the context of people to whom one was attached or strongly related, and its content was nonarbitrary—it concerned the stuff of life that was significant to adults.

By contrast, today's schools provide a remarkable experiment in decontextualization. Children are isolated from adults and, to a large degree, from children of other ages, creating youth and school cultures that are out of touch with the work and social worlds of adults. Learning is expected to occur, then, apart from the interpersonal contexts that have traditionally provided the support for internalization. Skill learning is also removed from the life context in which it is eventually to be used. Children are expected, over a number of years, to independently develop skills that often have no intrinsic meaning or purpose for them, with the idea that they will later be useful and relevant. And finally, learning is arranged as an individual and competitive affair, as opposed to an interpersonal, cooperative one. It thus becomes evaluation-laden, rather than simply a process of human exchange and communication.

The very artificiality of the context and content of schools, when contrasted with the typical historical forms of education that preceded them, suggests many reasons why alienation, disengagement, and failures of internalization are common among students. One might argue that to a large extent motivation in schools has become a significant problem precisely because we have removed learning from contexts in which it typically was motivated through nonarbitrary, often intrinsic factors. Upon disembedding education from the social matrix that traditionally supported children's motivation to engage in learning, the question of how to motivate children in school suddenly becomes pertinent and extraordinarily difficult.

Insofar as the setting and the tasks of learning are now arbitrarily engineered, so too, typically, are the motivators of learning. Thus along with formal schooling has come the formalization of extrinsic and sometimes unwittingly destructive motivators such as grades, promotions, detentions, and scholarships. Such extrinsic motivators, however, are generally ineffective for sustaining much excitement and passion for learning over the long haul. Moreover, it seems that reliance on external controls by educators can wrest control over learning away from other, more natural, motivational bases for learning and growth. The problematic nature of motivation in institutionalized schooling has thus become a matter of cyclical and heated debate, and the social costs of an educational system that alienates students and fails to foster an internalized sense of purpose and importance among its participants are ever more salient.

More than 50 years ago, Dewey (1938) presented the crux of this debate by highlighting two strong and antithetical viewpoints about what motivates learners and how to structure education in accord with one's motivational assumption. On the one hand are theories that see the motivation for learning as coming from outside the learner, from the structures, rewards, and incentives that can be externally provided. This theoretical stance emphasizes the need for extrinsic controls, since intrinsic motives are not assumed or are neglected. On the other hand are theories that assume that motivation is already present in every individual and can be catalyzed or facilitated in the context of the school. The task from this latter viewpoint is not so much instigating and controlling learning as it is affording and nurturing its occurrence. These latter theories have a long tradition in educational research and seem to continually tug at the outskirts of institutionalized learning. Prominent figures in this tradition include Montessori (1917/1965), Rogers (1969), Holt (1964), and others. What these theorists share is an *organismic* perspective, in that they view learning as a natural process, based in prepotent and intrinsic growth forces.

In this article, our intent is to once again articulate this organismic perspective and to link the assumption of an intrinsic motivation to learn with a social contextual theory about what supports or thwarts that intrinsic tendency. We argue that the facilitation of learning relies on factors that are largely interpersonal in nature. More specifically, we argue that a learner is most likely to be interested, engaged, and volitional in contexts of learning characterized by autonomy support and relatedness. We support our views through reflection on social contexts historically, through the framework provided by organismic theorizing, and through evidence that is emerging from recent empirical endeavors. Our thesis is that the kind of interpersonal factors that so powerfully and pervasively fostered learning throughout much of human history have relevance even within the institutions of schooling our culture has recently invented. Despite the fact that institutionalized settings dilute their motivational force, these interpersonal factors can be analytically described, studied, applied within classrooms, and supported through policy-level decisions.

The Organismic Perspective

Organismic theories assume as a starting point that students, like other human beings, have an innate and natural tendency toward assimilating new information, exploring novel terrain, and internalizing and integrating ambient practices and values. These activities of assimilating, internalizing, and integrating are basic characteristics of all animate entities or organisms, whose only invariant tendency is that of *organization.*

For heuristic purposes, we can further analyze the organization tendency

that vitalizes development into two forms or directions that represent the most basic and important intrinsic strivings of personality and of self. The first and most widely recognized form concerns the elaboration and extension of one's capacities and interests and their integration or reciprocal assimilation into a unified structure that is coherent and self-regulating. The pleasure in mastery, in effectance, in assimilating, in experiencing action merely for its own sake is, as Piaget (1952) once called it, a basic fact of psychic life. It is observed in play, in exploration, and is central to discovery and learning. Maturana and Varela (1975) used the term *autopoietic* ("self-creating") to describe this characteristic of organisms. In humans, autopoiesis is experienced in terms of needs for autonomy and competence that fuel intrinsic motivation and integration (Ryan, 1991; White, 1963).

A second, complementary manifestation of organization is represented by the striving for cohesion and integration of the individual with respect to his/her social matrix. Organization, that is, extends beyond the individual and concerns the unity among and between persons. Association and connection in the form of an organized social life are widely apparent among living forms and are deeply ingrained in human nature. We refer to the psychological need that corresponds to this aspect of organization as the need for relatedness (Deci & Ryan, 1991).

Thus, from the myriad of desires, needs, and purposes that can be put forth to describe the intrinsic direction of psychological development, the tendencies toward autonomy, competence and relatedness capture what is most fundamental. Our recent theoretical work has been based on exploring how these three psychological needs interactively and synergistically energize development and behavior and how social contexts impact upon motivation that is energized by these needs. The significance of the three needs in this model warrants a more specific definition of each.

The term *autonomy* refers to "self-rule," i.e., regulating one's own behavior and experience and governing the initiation and direction of action. In autonomous action, one experiences the self to be an agent, the "locus of causality" of one's behavior (Ryan & Connell, 1989). We use the term *self-determination* (Deci & Ryan, 1985; 1987) interchangeably with the concept of autonomy because it conveys the idea that autonomy entails being an origin (deCharms, 1968) with regard to action and toward transforming external regulations into self-regulation where possible (Meissner, 1981). A number of studies in the laboratory and the field have shown how a person's experience of autonomy can be affected by reward contingencies, styles of communication, and social structures, and accordingly can influence motivational outcomes (see Deci & Ryan, 1987, 1991, for reviews).

Competence concerns the sense of accomplishment and effectance that derives from the exercise of one's capacities under conditions of optimal challenge. In organismic psychology there is a recognition of the active

nature of individuals, insofar as they seek to stretch their skills and schemata ever further. Needs for competence or effectance are reflected in the propensity to pursue challenges that are just beyond one's current level of functioning and through such activity to both make developmental gains (Elkind, 1971) and derive a sense of confidence and self-esteem (Harter, 1983; White, 1960). An important point here is that competence needs operate without external prods, that is, they are potentiated in contexts that afford autonomy.

Relatedness concerns the emotional and personal bonds between individuals. It reflects our strivings for contact, support, and community with others. Relatedness implies more than mere connection, however. Relatedness refers to the experience of connecting with others in ways that conduce toward well-being and self-cohesion in all individuals involved. Relatedness needs are not antithetical to either competence or autonomy (Ryan, 1991), and in fact often one feels most related to those who are responsive to one's autonomous expressions. Relatedness needs play an important role in the processes of cultural transmission and internalization of values, and accordingly in educational contexts as well (Ryan, Connell, & Grolnick, in press).

Under conditions conducive to autonomy, competence, and relatedness, people will be likely to express their inherent tendency to learn, to do, and to grow. People are engaged and motivated in domains where their basic psychological needs can be and periodically are fulfilled. This is the principal assumption of the organismic approach, in general (Deci & Ryan, 1985, 1991) and in its specific application to schooling (Connell & Wellborn, 1990; Deci, Vallerand, Pelletier, & Ryan, in press; Ryan & Stiller, 1991). Furthermore, we submit that the kind of needs that are expressed by students (and that can energize their involvement in school) are largely of an interpersonal nature. In educational contexts and tasks where students experience support for their autonomy, and where they feel connected to and supported by significant others, they are likely to be highly motivated. By contrast, in contexts that are controlling (vs. autonomy supportive) and where persons feel disconnected or unrelated to significant others, alienation and disengagement are the likely outcomes. We suggest that needs for autonomy and relatedness are fundamental to educational processes and the motivation for engagement in school activities. Interpersonal processes that are experienced as conducive to autonomy and relatedness thus warrant attention insofar as the goal of educating the young is to be effectively accomplished.

To provide a map of the most general contours of how autonomy and relatedness vitalize students' engagement in school, we draw from a tradition of work cast in an organismic perspective (Deci & Ryan, 1985, 1991) and use it to ask the following questions: (a) What are the conditions that foster self-motivation? (b) What outcomes, cognitive and personal, accrue from

being self-motivated? (c) What are the criteria by which effective education should be gauged?

Social Contextual Factors That Facilitate or Hinder Internalization Processes

The organizational tendency assumed by organismic theories shifts attention away from the power of environments to shape, guide, or determine behavior, and toward factors in the context that can support versus thwart inherent propensities to learn and to grow. Organismic perspectives build upon a metaphor of nurturing and facilitating, rather than directing or controlling. They suggest that nature has already supplied our students with some resources with which we can ally ourselves as educators, rather than viewing their all-too-human nature as something to be overcome.

A critical assumption, then, of an organismic approach to education is that the affordance of autonomy versus the attempt to externally control behavior will differentially affect the expression of volition, interest, and mastery motives among learners. Investigations of this assumption in the context of classrooms are now numerous, and we will briefly review only a few relevant studies.

In an early study of the effects of variations in autonomy support, Deci, Schwartz, Scheinman, and Ryan (1981) investigated teachers' attitudes toward autonomy versus control and the impact of those attitudes on the orientations of children within their classrooms. It was predicted that teachers who valued autonomy would be more likely to promote confidence and mastery motivation in learning on the part of their students. By contrast, classroom teachers who were oriented toward externally controlling learning were expected to produce among students a more passive and less interested orientation toward learning and a diminished experience of autonomy and competence.

To examine these hypotheses, teacher attitudes about how best to motivate students in the classroom were assessed prior to the school year. Teachers who tended to motivate behavior through the use of such external controls as rewards or comparisons were considered controlling, whereas those who sought to minimize salient external controls and instead attempted to take the student's internal frame of reference with respect to problems, ideas, and initiatives were considered autonomy supportive. In fact, teacher attitudes toward motivation formed a continuum from autonomy-supportive orientations to controlling ones. Approximately 8 weeks into that year, the 610 children taught by these teachers were surveyed to assess their motivation with respect to learning, using measures developed by Harter (1981, 1982). The authors found that children in the classrooms of autonomy-ori-

ented teachers reported more curiosity for learning, more desire for challenge, and more independent mastery attempts. In addition, these children experienced greater perceived competence in school and reported greater general self-worth. Teachers' orientations toward autonomy support thus appeared to significantly influence the degree to which students were actively engaged in classroom learning and their sense of competence for academic tasks more generally. It is also worthy of note that teachers who expressed more of an autonomy-supportive orientation were rated by students as "warmer" than those who were more controlling. This suggests that autonomy support and experienced relatedness may be inexorably intertwined.

Ryan and Grolnick (1986) subsequently obtained similar findings using different methods. Children from elementary school classrooms were asked to rate the "climate" of their classroom using a measure developed by deCharms (1976) that taps students' perceptions of their teacher and classroom along a continuum from autonomy-supportive to controlling atmospheres. It was found that children who experienced the classroom as more autonomy supportive were more mastery motivated, possessed greater perceived competence, and demonstrated more understanding of how to attain learning outcomes relative to children who experienced a controlling climate. When children were asked to write projective stories about a "neutral" classroom scene, students who reported experiencing controlling classroom climates depicted in their stories teachers who tended to be controlling or authoritarian and students who were either passively compliant or rebellious. By contrast, students who reported an autonomy-supportive climate on the surveys tended to write projective stories characterized by more active, interested, and constructive student-teacher interactions. These findings suggested that not only does autonomy support versus control affect one's current motivational style, it also influences the way classrooms and education more generally may be represented and experienced.

Ryan and Grolnick (1986; Grolnick & Ryan, 1989) have additionally argued that students who view their interactions with adults as controlling may, in fact, elicit more controlling behavior from adults as a reciprocal influence. Similarly, students who are relatively self-regulating may elicit responsiveness and support for autonomy from adults, which in turn facilitates greater self-determination. Ryan and Grolnick provided evidence that both environmental and individual difference elements play a role in a child's perceptions of the classroom climate. Perceptions of classroom climate are a function partially of actual classroom conditions, which are largely determined by teacher style and orientation, and partially of variations in children's interpretation of the ambient environment. They suggested that variability in interpretations may result from prior experiences at home and in school and that these prior experiences may dynamically impact upon current teacher-child interactions. Children, for example, who

come from authoritarian homes may transfer this motivational set to the classroom and thus interpret teacher behaviors as controlling.

Grolnick and Ryan (1989) directly explored the relations between the social context of the home and children's motivational set with respect to school in an in-depth interview study assessing mothers' and fathers' parenting styles. More specifically, they examined the effects of autonomy-supportive versus controlling parental practices and levels of parental involvement on children's sense of autonomy, competence, and control in school. They also related parental style to teacher-rated adjustment and to objective indices of achievement.

Grolnick and Ryan hypothesized that parental autonomy support provides the context necessary for the development of self-regulation and internalization relevant to academic achievement and thus would predict classroom motivation and competence. They operationalized autonomy support by rating the degree to which parents (a) used techniques that encouraged choice and participation in making decisions and solving problems, (b) valued autonomy in their children, and (c) provided a democratic versus authoritarian home climate. Central to the rating of autonomy-supportive techniques was the parents' willingness to take the child's frame of reference into consideration when motivating or regulating the child's behavior. Controlling parental behaviors, on the other hand, were characterized by pressure exerted on the child to think, feel, or behave in specified ways, through the liberal use of external punishment or rewards as motivational tools.

Grolnick and Ryan further hypothesized that facilitation of children's self-regulation and competence is related to parental involvement, conceptualized as the extent to which the parent is interested in, knowledgeable about, and takes an active part in the child's life. They reasoned that parents who are available to children and provide a secure base (Bowlby, 1988) thereby provide children with a foundation from which to try out challenges and to initiate action in the extrafamilial world of school.

Results showed that parental autonomy support was positively related to children's self-reports of autonomous self-regulation, teacher-rated competence and adjustment, and school grades and achievement. Children of autonomy-supportive parents were more likely to report interest in engaging in school-relevant tasks, were rated by teachers as less likely to act out or exhibit poor adjustment, and performed better on "objective" indices of performance. Grolnick and Ryan interpreted these results in two ways: (a) autonomy-supportive parents promote self-regulation in their children by allowing for the autonomous growth of interest and volition, and (b) children who demonstrate greater adjustment and motivational difficulties also elicit increased external control from their parents. These results were thus interpreted as reflecting a transactional process in which parent and child

bidirectionally influence the child's development of self-regulation in school.

Maternal involvement was positively related to teacher-rated competence and adjustment and school grades and achievement. It thus appeared that mothers' provision of resources provided a secure base of operation for children's self-regulation and adjustment in the classroom. By contrast, paternal involvement showed little impact upon children's self-regulation or competence. In the particular sample studied, Grolnick and Ryan interpreted these results in terms of the low absolute level of involvement (time spent) by the interviewed fathers.

Grolnick and Ryan concluded that adults' autonomy support and involvement with respect to children was an identifiable influence on children's classroom self-regulation and competence. Most significantly, they found that an atmosphere of support for autonomy facilitates the internalization of school-related values and the associated development of competence. These findings emphasize the importance of interpersonal contexts, specifically the provision of autonomy support and involvement, in influencing a child's motivational orientation with respect to school.

More recently, Grolnick, Ryan, and Deci (1990), using structural-equation modeling, examined the relations between children's perceptions of parental autonomy support and involvement and the children's motivation and performance in school. They hypothesized that children's perceptions of parenting style directly impact and shape the development of such inner motivational resources as control understanding (Skinner & Connell, 1986), perceived competence (Harter, 1983), and autonomy (Ryan & Connell, 1989). In turn, it was expected that these resources within the child would predict achievement-related outcomes. Grolnick et al. found that the relationship between perceived parental context and academic achievement was, indeed, mediated by the child's motivationally relevant inner resources. Perceived parental autonomy support and involvement positively predicted control understanding, perceived competence, and relative autonomy, all of which predicted both standardized and teacher-rated measures of achievement. These findings again highlight the functional significance of perceived autonomy support and involvement from adults for school-related outcomes. Moreover, the findings suggest that the impact of interpersonal contexts on achievement outcomes is an indirect one, resulting primarily from the facilitation (or debilitation) of the student's psychological resources and motivational orientation.

The research we have reviewed thus far supports the theoretical prediction that adults' orientations toward autonomy support is centrally related to educationally adaptive outcomes. Perhaps the most vociferously articulated concern in the current educational reform movements, however, is that students are not demonstrating sufficient mastery of cognitive objec-

tives as measured by standardized tests. Teachers, in the context of teacher workshops, frequently remark that they recognize the importance of interpersonal context and student autonomy but that the bottom line, the line they must toe, is ensuring that their students demonstrate achievement of the cognitive agenda. Teachers argue that this factor, along with others such as the number and heterogeneity of students in one classroom, detracts from their ability to facilitate student autonomy and requires a shift to a more controlling stance under the pressure to attain an externally mandated goal.

To examine how the pressure on teachers to cover externally specified curricula and insure high standards might affect teaching styles and behavior, Deci, Spiegel, Ryan, Koestner, and Kauffman (1982) designed an analog study. Two groups of college students acted as teachers in the context of an experiment on spatial problem solving. After familiarizing them with the tasks, each of them was assigned a student to whom they were to teach the skills necessary to successfully solve the problems. One group was instructed "to facilitate the student's learning" without pressure toward performance requirements, whereas the second group was told to "make sure the student performs up to standards." Teaching sessions were audiotaped and later rated by persons unfamiliar with the hypotheses. Teachers in the "standards" group were rated as more demanding and controlling than those in the "no standards" group. Furthermore they talked more, were more directive, used more criticism and praise, and allowed the student less time to explore or independently solve puzzles, suggesting that pressure concerning standards conduces toward a more controlling versus autonomy-supportive style in teachers.

Flink, Boggiano, and Barrett (1990) replicated and extended the finding that controlling teaching styles can be readily "induced" by pressure on teachers to produce specified outcomes in research that took place within an elementary school setting. In this study, fourth-grade teachers were oriented to a curriculum package by being told either (a) to facilitate children's learning or (b) to insure that children perform well (closely paralleling the instructions used in Deci et al., 1982). Results indicated that students of pressured teachers who used controlling strategies performed more poorly than students of nonpressured teachers. In addition, their analyses suggested that the performance decrements stemmed directly from the increased use of controlling strategies evidenced by teachers who experienced pressure.

Grolnick and Ryan (1987) examined the conceptualization that classroom practices and learning that occur under controlling conditions may result in poorer student performance due to less autonomous student engagement with curricula and, further, that less depth of processing and integration of knowledge will result. In contrast, they argued that learning that is self-regulated and autonomous has a qualitative advantage over that which is

brought about through external control or reward. They compared reading comprehension and memory for standard textbook material among fifth-grade students subjected to one of three conditions: (a) a nondirected or "spontaneous" learning condition, in which children read a text with no expectation that learning would subsequently be assessed; (b) an autonomy-supportive, directed learning condition, in which children read a text and were told that the experimenters were interested in and would assess what children might learn from it, while emphasizing that there were no grades or evaluations attached to their performance; and (c) a controlling and directed-learning condition, in which children were told they would be tested on their reading and would be graded. It should be clear that the controlling condition in this study is the common form of "motivating" children to learn in many educational settings. After reading the text, all children were tested for rote recall of the text and conceptual learning outcomes. In addition, the children were assessed 1 week later (unexpectedly) to evaluate their longer term retention of rote information.

Results indicated that the two directed-learning conditions produced superior rote learning relative to the nondirected learning condition. Undoubtedly, the directive to learn oriented students to pay more attention to details and perhaps motivated more differentiated encoding. But subjects directed to learn in the more controlling style (i.e., using grades) evidenced greater deterioration of rote recall over the follow-up period, which suggests that pressured learning may be less likely to be retained. In contrast to the results concerning rote learning, however, conceptual outcomes were significantly lowest in the controlling, directive condition. Children who learned under the pressure of evaluation were least likely to glean the main points of the text they read. Grolnick and Ryan suggested that there was less active assimilation and integration of what was read when children's learning was less self-determined. Here, again, is evidence that points to the failure of external, pressure-oriented techniques in the production of cognitive internalization.

In the context of this research, further evidence for the relationship between autonomous motivation and the quality of learning outcomes was gathered by assessing individual differences in children's internalization of achievement motivation using a strategy described in Ryan and Connell (1989). It was found that within spontaneous or nondirected learning conditions children for whom learning and achievement was experienced as more autonomous were much more likely to retain rote knowledge over time, even controlling for intelligence. Put differently, under nonpressured conditions for learning, children who have come to value achievement show better long-term retention than those who have more external orientations. However, individual differences in internalization were significantly less influential under conditions of external pressure.

Perhaps most interesting in this line of research is the fact that the impact of variations in autonomy support versus control does not represent a variation in curricula, content, or cognitive technique. Rather it represents variations in the interpersonal context in which these techniques, contents, and curricula are embedded. The very same cognitive agenda can be forwarded either through controlling or autonomy-supportive relationships with markedly different effects.

A similar theme is beginning to emerge in research examining students' experience of relatedness to teachers and parents. As we previously argued, relatedness needs provide a major impetus for the internalization of social learnings and are therefore fundamental in the transmission and stability of culture (Ryan & Deci, 1985). This assumption suggests that contexts conducive to feelings of relatedness and attachment to parents and teachers will be associated with more positive attitudes and motivational orientations with respect to school (see also Connell & Wellborn, 1990).

In a recent study, Ryan, Stiller, and Lynch (1991) investigated how representations of relatedness to significant others are associated with the inner resources that a student brings to the educational enterprise. More specifically, they explored how the degree of relatedness experienced with respect to parents, teachers, and friends was predictive of students' school functioning, as indicated by measures of positive coping, relative autonomy, perceived control, and general self-esteem. They began with the general conception that parents are the primary representational model with regard to relatedness issues and that subsequent relationship representations are derived in large measure from this original. Thus, parent representations were hypothesized to be highly associated with both teacher and friend representations, but teacher and friend representations were expected to be largely unrelated to each other. A further issue was the differential predictive value of each of the representations to school-relevant outcomes. Perceived control over academic outcomes, relative autonomy, engagement, and positive coping were expected to positively relate to both parent and teacher representations but not to representations of friends. In addition, students who reported a low likelihood of utilizing parents, teachers, or peers for school-related and emotional concerns were predicted to be at risk for school maladjustment.

Results indicated that parental representations correlated strongly with teacher representations and, less strongly, with friend representations. Teacher and friend representations, on the other hand, were largely not related to each other. Results also supported the hypothesis that parent and teacher representations would predict school functioning whereas friend representations would not. In fact, quality of relatedness to teachers and parents both uniquely contributed to most indices of school functioning.

Ryan et al. concluded that relatedness to parents and teachers can significantly facilitate school-related functioning for adolescents.

Ryan et al. (1991) also examined factors associated with the perceived quality of relatedness students experienced with respect to parents and teachers. They found that the felt quality of relatedness was in large part a function of the degree to which those adults were perceived as autonomy supportive and involved. Conversely, students reported low security in their attachments and relationships with controlling and/or uninvolved adults. It thus appears that autonomy support and involvement facilitate a positive relationship with adults in the social context of learning, which in turn promotes more active engagement, volition, and confidence. It also appears that the experience of relatedness is at least in part founded on one's sense that the other respects and supports one's autonomy. That is, relatedness flourishes when one feels that others are responsive and receptive to expressions of the self (Ryan, 1991).

Remarkably, there are only a few other studies examining relationships between students' representations of their relationships to adults and their school-related functioning. Ryan, Avery, and Grolnick (1985) examined object representations using a "mutuality of autonomy" measure from the Rorschach (Urist, 1977) and found that it predicted teacher-rated indices of classroom functioning, including attention, social adjustment, and self-esteem in an elementary school-aged sample. There were also significant relations between this measure of object representations and teacher-assigned grades but not standardized test outcomes. A drawback of this study concerns the fact that the object-representation measure used was not target specific but rather a generalized measure of interpersonal schemata. In a subsequent study, Avery and Ryan (1988) used the Blatt Object Relations Scale to measure specifically representations of mothers and fathers in a middle-childhood sample. Although the quality of parental relationships was not related directly to achievement test outcomes, it was predictive of school-related perceived competence and peer-sociometric ratings. More pertinent was the finding that the quality of parental representations was correlated with children's report of autonomy support and involvement from parents. This latter study thus supports our view that autonomy support is an important and perhaps necessary ingredient in the formation of attachment and relatedness to significant adult figures.

Relatedness is significant for reasons beyond the promotion of psychological well-being and general school functioning. Interpersonal relationships provide the social context that supports the psychological process of *internalization* (Ryan & Stiller, 1991), one of the mechanisms hypothesized to account for development (Behrends & Blatt, 1985) and the transmission of culture (Ryan & Deci, 1985; Vygotsky, 1978). The few relevant studies herein reviewed show that relatedness conduces toward internalization in

the sphere of education, and furthermore that relatedness is experienced more strongly when the interpersonal context is characterized by autonomy support and involvement.

Toward Motivated Learners: An Affective Agenda for Education

The implications of organismic thinking, particularly in reference to the process of internalization, point toward a need for reconceptualizing the current goals of education. In our view, the goals of education should consist not only of cognitive outcomes, but also of affective criteria. That is, schools are contexts for developing an appreciation for and valuing of learning and for the acquisition of volition and confidence with respect to achievement-relevant actions.

Although these goals are perhaps obvious to caring educators, they are surprisingly underrepresented in discussions of educational agendas. By contrast, there seems to be a perennial concern with standardized achievement test results and with relative standings on the body of facts deemed relevant to education. For example, the most prominent feature in recent reform initiatives from the Bush administration is a push for national standardized tests, directed toward improving accountability for cognitive outcomes in schooling. Educational interventions accordingly attempt to show measurable gains on such cognitive assessments, since these represent the educational "bottom line."

Yet it is reasonable to question whether there is wisdom in such a formulation of the bottom line. Is it appropriate to conceive of the central goal of 12 years of mandatory schooling as merely a cognitive outcome? Or is there something more fundamental, and perhaps more at the heart of the educational enterprise than what is revealed in standardized achievement test scores?

Talks with parents suggest that there are alternative conceptions of the goals of schooling. When asked to focus on *their* children and what they want for them, parents rarely come up with a score. Instead, they tend to say they would like to see their child interested and involved in school work, willing or even enthusiastic about achieving something in school, curious and excited by learning to the point of seeking out opportunities to follow their interests beyond the boundaries of school. Furthermore, parents want their children to feel good about their efforts in school, to grow in their confidence and sense of effectance, and to derive from school a sense of worthiness and esteem that can be carried forward in tackling subsequent life goals. In short, most parents (and teachers, in our experience) aspire most centrally to getting schools to accomplish *affective* goals, rather than solely cognitive ones.

We suggest that placing the cognitive agenda as central has worked against the simultaneous accomplishment of important and too often neglected affective agendas such as those described above. Students volitionally approach learning via affect: Either they learn out of interest and enjoyment or because they value the knowledge or skill. The old adage "you can lead a horse to water . . ." captures the dilemma teachers face daily in their mission. Students who do not thirst cannot be forced to drink from the well of knowledge. The goal of schooling is first and foremost to create thirsty horses and, second, to measure their intake. Thought of in this way, schools cannot make satisfactory progress on cognitive outcomes unless they address the affective processes that produce them, no matter how much pressure they are under.

In particular, unless the socialization practices of schools facilitate the internalization by students of values and interests in learning, then the battle for cognitive gains is a futile one. This should not imply a lack of appreciation of cognitive goals and knowledge-relevant outcomes in education. We suggest, rather, that children who value learning and who feel confident in approaching achievement-relevant tasks will also tend to exhibit measurably better achievement. The acquisition and application of knowledge in a self-motivated learner, in fact, typically are more deeply processed, better retained, more generalizable, and more thoroughly integrated with prior knowledge (Ryan & Stiller, 1991).

The importance of an affective agenda for education extends beyond its role in advancing cognitive gains. Schools teach a great deal more than the curriculum. They are a primary context for cultural socialization wherein children's behavior is regulated and they acquire values for learning and attitudes about themselves as learners. During the years that children are in school, they receive affective lessons that will affect their aspirations, perceived competence, motivational style, and relationships with authorities for long after they leave school. Students who gain a value for and interest in learning and a sense of personal confidence or effectance in the process of discovery and problem solving have something in hand more usable than a diploma. These affective underpinnings, if acquired in the context of education, can persist to energize adaptation, development, and self-education in life after school, which is after all what schools are intended to prepare us for.

Conclusion

It is a starting premise of this article that today's schools represent an experiment in the decontextualization of learning and development. Schools remove children from close interpersonal attachments that, in prior history, were the primary vehicles for cultural transmission and skill development.

However inevitable the institutionalization of schooling is, it is nonetheless the case that educational settings have in some ways stripped away the traditional contextual supports that facilitated children's motivation to engage in learning, that clarified the meaning and purpose of activity, and that wove children into the larger fabric of their community. We have suggested that this phenomenon may explicate some of the reasons for student alienation and disengagement from the processes and institutions of learning.

Perhaps "wonder bread" provides the appropriate analogy for this scenario. Grain rich in vitamins and nutriments is stripped of them but, once it is bleached and sterilized, its makers are compelled to reintroduce some of these nutriments back into the recipe. Accordingly, vitamins are artificially added in order to build healthy bodies in the proverbial "12 ways." By analogy, with the invention of institutionalized schooling, learning and development are removed from rich natural contexts and, in order to build healthy minds, educators have to reintroduce some of the relational elements that provided nutriment for learning in the first place.

An understanding of the psychological needs of individuals points clearly to the essential vitamins that need reintroduction into the schooling process. Autonomy and relatedness have been shown to be fundamental for learning; thus, facilitating environments are those that are distinguished by the provision of interpersonal involvement and support for autonomy.

Many of the studies we have reviewed start from the premises of organismic theory and represent attempts to investigate the extent to which the ingredients available in noninstitutionalized development are also active in the contexts of modern schools. To a robust degree, it appears that the interpersonal dimensions of autonomy support and relatedness represent significant influences on the affective and cognitive outcomes of education. The recognition of the centrality of the interpersonal atmosphere between adults and students in fostering an inner motivation to learn can help to reorient the practice and priorities of educators and lend support to policy makers wishing to focus less on the legislation of cognitive standards and more on supporting teachers in enhancing children's interest and involvement in learning.

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