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Many factors contribute to personality development; many factors remain essentially unexplored.

DEVELOPMENT OF PSYCHOSOCIAL MATURITY

A Review of Selected Effects of Schooling

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Perhaps it could go without saying that the American school system has been scrutinized from multiple and varying perspectives during its 200-some years of existence. But given the many complex roles and goals public education assumes, it is unlikely that supporters and critics alike will cease in their continuing vigilance of public school effectiveness. While many critics have called for various types of educational reform (e.g., Adams and Looft, 1977; Illich, 1971; Silberman, 1970; Friedenber, 1965; Goodman, 1960; Greer, 1972; Kozol, 1972) with few exceptions (e.g., Coleman, 1961; Conant, 1959, 1964; Jencks et al., 1972) the majority of social philosophical critiques of school effectiveness lack the credibility found in the empirical documentation of proposed "cause and effect" relationships. Although individual case reports,

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general observations, and social insight offer much to our understanding of the educational process, such strategies are best used for "hypothesis generation" rather than "hypothesis testing" (Adams and Schvaneveldt, forthcoming). The most parsimonious, pragmatic, and efficient manner of determining school effectiveness in reaching specific goals is through the application of the scientific method and appropriate data-gathering techniques.

In the pages of this issue a range of the varying contemporary strategies for assessing school effectiveness is utilized. Depending upon the individual scholar's training and interest, you will note differing definitions of key variables to be considered. The independent or proposed "causal" variables range from social-cultural factors (e.g., Bazemore and Noblit, 1978), through social-structural units such as the school building (e.g., Lezotte and Passalacqua, 1978) or quality of home atmosphere and instruction (e.g., Dolan, 1978), to educational processes in the school (e.g., Kelly, 1978; Pink and Sweeney, 1978; Crocco, 1978) or classroom (e.g., Borman, 1978). While the dependent or "effected" variables differ from report to report, the general concern in each article is with the welfare and care of the pupil, child or adolescent. The papers in this issue serve an important role in that they provide further clarifying evidence of the impact of schools on children's cognitive skills, achievement, and performance, and also explore less frequently examined school effects on school behavior and personality development. It is to these latter school effects, that of social behavior and personality development, to which this paper will be addressed.

Progressive educational theory, which has maintained widespread popularity since the early 1920s, recognizes both the cognitive and social development of children. In that progressivists endorse experimentalism in the form of "learning through living," an emphasis is placed upon a logical presentation of educational materials through a psychological method of teaching that gives meaning to the learning experience. But learning experiences are not socially isolated events. Perhaps Morris (1961: 363) captured the essence of the social nature of a progressivist learning theory when he remarked:

Since the basic epistemology of scientific logic depends so much on the sharing of findings, all learning founded on that logic must become thoroughly social in character. Progressivist schools, therefore, are places where boys and girls work together more than they work alone. Especially in character-building is this so.

Therefore, frequent statements are made in the educational literature that professional educators are expected not only to attend to the cognitive and vocational skill development of their students, but in addition prepare the student to be a mature, adjusted, and interpersonally capable person. Unfortunately, we argue, educational researchers are more likely to emphasize in their empirical endeavors the effects of schooling on cognitive over social-personality development. Therefore, we shall turn our attention to this infrequently studied issue.

Due to space limitations and the breadth of the theoretical model employed in this paper, we have selectively incorporated only a small fraction of the available educational literature which has emerged in the last decade, but have attempted to draw upon those published sources which representatively illustrate our current state of empirical documentation. However, before we outline the theoretical model that has been used to synthesize school effects on individual personality and social development, a few brief remarks on human development research methodologies appear in order.

MEASURING EFFECTS OF EDUCATIONAL INTERVENTION ON HUMAN DEVELOPMENT

The study of educational programs or environmental effects on individual development can quickly become a complex and difficult problem.¹ However, Buss (1974a) has shown that three factors or elements (persons, variables, occasions) can be sampled to address the main dimensions of individual development (interindividual differences, intraindividual differences, intraindividual change). One could study how persons differ from each other (interindividual differences), the association between variables or measures within individuals (intraindividual differences and similarities), or study how indi-

viduals change over time or from one occasion to the next (intraindividual change). Therefore, when examining schooling effects on individual development one can examine individual differences, the association between behaviors, or stability and/or change in behavior over time. What then does this mean in terms of research methodologies? McCall (1977: 337), in addressing this issue, has contended we must move to longitudinal over cross-sectional research designs. In his own words, "if a primary mission is to discern ontogenetic change within individuals, the sequence and timing of developmental transitions, and the changing social and environmental factors that permit development to occur, then we must use longitudinal, not cross-sectional, approaches to our subject matter."

Much to our disappointment and a limitation of the review which is to follow, very little longitudinal research has been completed on school effects on personality development. When developmental models are utilized, cross-sectional designs are typically employed. Therefore, more is known about age differences than age changes (Wohlwill, 1973; McCall, 1977). Unfortunately, cross-sectional designs were found to be relatively infrequently used as well. As a result, we are for the most part limited to a discussion of school effects of interindividual differences in children's personality and social development. The question of intraindividual change, or growth and development over time, as a function of specific school effects is yet to be extensively examined by educational researchers.

A MODEL OF PSYCHOSOCIAL MATURITY

Greenberger and Sorensen (1974) have provided a broad conceptual model of psychosocial maturity. It is their proposal that three general capacities are demanded by society for an individual's effective functioning. The capacities include individual, interpersonal, and social adequacies. Individual adequacy implies the ability to function effectively on one's own. Interpersonal adequacy means the ability to interact with

others, while social adequacy is the capacity to contribute to group cohesion and solidarity. Using the major dimensions of psychosocial maturity, we have identified a number of corresponding personality attributes or social behaviors which are subsumed under the three general types of adequacies. In the remaining pages we shall briefly summarize many of the potential effects on individual differences indices of children's psychosocial development.

INDIVIDUAL ADEQUACY

Self-concept

While self-concept, or the affective parallel of self-esteem, has been viewed by personologists such as Maslow, Rogers, Mead, and Sullivan as determinants of successful social behavior, others have argued that it is merely a consequence of positive life experiences, easily altered or modified by success or failure in real-life situations. Regardless of which perspective one assumes, the behavioral correlates of a positive self-concept are broad ranging. But what, if anything, might educators do with children to increase their positive self-images? It appears a variety of schooling effects can be tentatively identified which facilitate self-concept development in children.

Although proponents of particular educational philosophies maintain that specific schooling programs are more effective than others in increasing children's self-concept, the supporting documentation for such a statement is equivocal. For example, Sullivan (1974) compared two fifth-grade classrooms based upon an "open" versus "traditional" educational framework. Students were compared on creativity, self-confidence, and decision-making measures. While the open classroom was more likely than the traditional program to lead to improvement in children's self-confidence and independent decision-making, it had only marginal impact on creativity. However, Ruedi and West (1973), in their comparison of fourth-, fifth-, and sixth-grade children in these same two types of educational programs, failed to find significant dif-

ferential impact on children's self-concepts, autonomy or academic adequacy. Similar findings are reported by Klaff and Docherty (1975). Likewise, Groobman et al. (1976) failed to find self-concept-related effects due to open versus traditional schooling. However, like Ruedi and West (1973), Groobman et al. report children hold more favorable attitudes toward teachers in open, humanistic-oriented programs.

While educational experiences varying in educational philosophies have shown inconsistent effects on self-concept formation, tracking or ability grouping research shows a similar lack of consistent findings. Given that Nachmias (1977) has recently examined the effects of tracking on self-esteem, we shall limit our comments here. Research such as that reported by Weiner and Weiner (1972) suggests ability grouping has no effect on self-concept, but other investigations (e.g., Kelly, 1975) document a differential relationship between track position and self-concept (esteem). However, Dyson (1967) has noted an important qualification which offers some potential insight into the limitations of generalizing from what appears to be inconsistent findings. While ability grouping may appear to lead to negative consequences for the low ability groups, Dyson has presented data which suggest success within tracks is more influential in self-concept formation than actual placement within a given ability group. Therefore, we speculate tracking (or differing educational programs) may be less influential in its impact than successful experiences within the school setting in determining children's self-concept development.

Turning to explicit teacher-related behaviors and attributes, a number of schooling effects can be pinpointed. The individual teacher's personal attributes can have important impact on his/her pupils. Teachers with high self-concept (Trowbridge, 1970; Edeburn and Landry, 1974, 1976) and positive attitudes toward intellectual achievement (Fleming and Anttonen, 1971; see Adams and LaVoie, 1977, for a review) are likely to have students who acquire similar positive self-perceptions. Further, given that self-concept is positively associated with intelligence, achievement (Lewis and Adank,

1975), locus of control, and verbal fluency (Felker and Thomas, 1971), teachers who emphasize academic productivity are also likely to facilitate self-concept development.

But what do teachers actually do that appears to increase self-concept of their wards? Felker et al. (1973) have shown that teachers who assist children in increasing their own self-rewarding behaviors have pupils who show gradual enhancement of self-concept. While educational materials of a varied nature can be used by teachers to increase their students' self-concept (Schulman, Ford, and Busk, 1973), such practices as having children read aloud literature about their own ethnic group (Wagener, 1976), assume academic leadership roles (McKeown, 1976), and game-play successfully (Flowers and Marston, 1972) can increase students' self-confidence and concepts. Further, effective utilization of contingency management (Parker, 1974), prompting (Hauserman et al., 1976), and modeling techniques (Brown and MacDougall, 1973) can likewise be used in facilitating positive changes in self-concept.

Responsibility

Essays on the educational importance of choice with responsibility (Veach, 1977) and the need for emphasis on individual responsibility in the educational process (Hyman, 1973) abound. However, little is actually known about the effectiveness of schools in assisting children toward responsible behavior. Wang and Stiles (1976) report that the individual child's perception of responsibility for management of his/her own learning is an important predictor of school success. Further, they have shown a self-schedule system can be used to increase school learning through the utilization of a learning management program. However, counterevidence (Trotta, 1975) suggests "traditional" over "open" school programs may be more facilitative in internalizing self-responsibility for academic achievement and internal locus of control in elementary school children. It appears, therefore, we have to question what school effects, if any, exist which lead to differential impacts on children's sense of self-responsibility.

Achievement

Two general lines of research on achievement have evolved over the years. Need for achievement research has directed its attention to internalized motivational forces that are thought to lead to successful performance. In comparison, achievement performance research has emphasized individual work output and differential levels of achieved knowledge between individuals. We shall address both types of research briefly.

Success, for example, has been shown to have both a cognitive and motivational effect upon need for achievement (Atkinson and Raynor, 1978). Successful educational experiences strengthen the child's expectations and motivational need to achieve success while increasing avoidance of failure (e.g., see Parsons and Ruble, 1977; Hill and Dusek, 1969). But what are the schooling effects on achievement? McClelland (1972), the forefather of achievement research, has reviewed the major factors influencing the effectiveness of achievement motivation training. Two factors stand out in his review. First, increased stress on self-reliance and educational autonomy does not seem to increase the need for achievement. Rather, direct instruction in achievement motivation and goal-setting integrated into the usual classroom activities over an extended period of time seems most effective. Second, three major characteristics of teacher behavior appear important. Teachers who are able to arouse and maintain student attention, insure cooperative and ongoing participation by classroom members, while at the same time making each student feel accountable for his/her behavior have been found to produce achievement-oriented, work-involved students.

Are we likewise able to identify potential schooling effects on actual achievement performance? Several recent reviews of the educational literature have addressed this issue. Jencks and Brown (1975) report that data on high school effectiveness are inconsistent, arguing that at least for white youth such school characteristics as amount of teacher experience, class size, or social composition appear to have little consistent impact on equalizing students' school performance. In comparison, Randhawa and Fu (1973) and Lipe and Jung (1971)

present evidence which suggests a wide range of individual classroom environment variables that may have an impact on students' academic performance. For example, Randhawa and Fu note such far-ranging factors as subject matter, grade level, classroom learning environment, sex of teacher, urban versus rural settings, and social class could have influential effects on student achievement; while Lipe and Jung summarize research on the use of incentives (e.g., material goods, praise, knowledge of results, secondary reinforcements, aversive incentives, vicarious reinforcement) as important school impact variables.

Other educational data suggest factors such as negative teacher-student interactions (Firestone and Brody, 1975), individual goal-setting conferences (Gaa, 1973), and class size (Bolander, 1973) may have important differential effects on students' academic performance. Also, extensive attention has been directed to comparing educational curricula. For example, comparisons of children from "traditional" and "open" school classrooms suggest traditional school programs may excel (Bell et al., 1974; Wright, 1975) or at a minimum equal (Walker and Schaffarzick, 1974) that of open school programs in influencing students' achievement. Further, comparisons of children from nongraded and graded classrooms suggest the former may have a stronger differential effect on pupils' academic achievement (Brody, 1970; Engel and Cooper, 1971; Hillson et al., 1964). But two investigations suggest nongraded and graded programs are not likely to maintain differential effects over more than a two- or three-year period (Williams, 1966; Jones et al., 1967). Collectively, these data and a great deal more indicate school environment factors can and do have an impact on both academic performance and achievement motivation.

Delay of Gratification

Our cultural emphasis upon the Protestant Ethic has led to a strong social endorsement of the voluntary postponement of immediate pleasurable gratification for more long-range goals and objectives. While research abounds on the topic

(e.g., see Mischel and Mischel, 1976, and Mischel, 1966, for extensive reviews) very little systematic attention has been given to school effects on the development of children's delay mechanisms in public school settings.

Although several lines of intervention research are suggestive of school-related effects, children as young as six years of age may perceive delay strategies as the smartest or wisest form of behavior while actually preferring immediate gratification (Nisan and Koriat, 1977). Additional data suggest affect plays an important role in determining self-gratification strategies (Moore et al., 1976). Happy children were found to choose a larger, delayed reward than sad children. This might suggest more humanistic, open school programs may set the necessary affective climate for the development of delay techniques over strict, authoritarian school programs. Further, three divergent lines of research suggest possible teacher model, group composition, and teaching curriculum effects. Bandura and Mischel (1965) demonstrated that children increase their delay of gratification after observing an adult model show such behavior. An additional social factor suggests, at least among boys, group decisions may be more effective than individual choice in facilitating delay of reward preferences (Nisan, 1976). Therefore, teaching strategies which emphasize group over individual activities may be more conducive to delay of gratification development. Finally, on an individual student intervention level, a simple problem-solving technique using anagram-type problems has been shown effective in increasing elementary school-age children's delay of gratification (Walls, 1973).

Independence

The definition of independence, according to Parke (1969: 302), includes "social behavior, such as initiative, self-assertion, unaided and effortful striving, in addition to infrequent attempts to gain nurturance from others." Although children become more independent with age (Parke, 1969), few studies have been completed in the past decade on school effects on

independence development. Critics remark that schooling in America reinforces dependency (e.g., Norton, 1970) yet independence has been shown to be correlated with children's achievement orientations. A few investigations suggest reinforcement for children's independent behavior increases the magnitude of manifested independence (Fales, 1944; Kourilsky and Hirshleifer, 1976), but little is known about how schools can influence the development of independence in their pupils.

Locus of Control

Locus of control is usually described as consisting of two general types of expectations. An individual is said to be *internal* when he maintains a self-determination for positive social reinforcement (and success) and *external* when he believes reinforcement is dispensed by forces outside of his own control (fate, luck, chance). While a variety of reviews have synthesized much of the experimental research literature on this construct (e.g., Lefcourt, 1972), little systematic attention has been given to school effects on the development of internality. Increasing internality is positively correlated with chronological age (Pawlicki, 1974), and certain school-related effects may be noted which account for such a developmental trend. Locus of control expectancies appear to develop long before public school attendance (Stephens and Delys, 1973), but it appears these expectancies can be modified through educational experiences (Searcy, 1976). Too much adult structure may impede the development of internality in middle-class youth (Chabassol, 1973), but for inner-city youth a structured environment which clearly demonstrates the connection between behavior and reinforcement outcome has been shown effective in increasing internality beliefs (Nowicki and Barnes, 1973). However, Bartel (1971) has presented evidence which suggests a social class difference emerges over grades one through six between lower- and middle-class children. In her investigation, first and second graders were found to not differ in their locus of control perceptions, but by the sixth grade strong differences were observed. Such findings

suggest that lower-class youth are rewarded for externality and conformity by their teachers, while middle-class youth are reinforced for internality.

Given that locus of control (internality) is positively related to such variables as popularity, achievement, delay of gratification, and achievement motivation, a clear understanding of the full breadth of school effects on internality seems in order. To this data our understanding of this association is still greatly limited.

Aspirations

Alternative schools appear to be no more effective than traditional schools in influencing career expectations or aspirations (Shaw et al., 1975). Attendance at an upper-middle-class (Bain and Anderson, 1974; Picou, 1973) or high-status school (Boyle, 1966) has positive influences on students' aspirations, with enrollment in a college preparatory program being an important contributing factor to elevating goals and aspirations (Kandel and Lesser, 1970; Alexander and McDill, 1976).

While some data suggest individual teachers may have little influence on the average high school student's career ambitions (Williams, 1975), an opposing viewpoint suggests interpersonal encouragement is also an important contributing variable to students' educational plans (Picou, 1973). Likewise, the higher a student's self-estimates of intelligence, the greater the reported aspirations (Goslin and Glass, 1967). Therefore, a supportive interpersonal environment which encourages a student to use his or her abilities is likely to lead to high career aspirations. Such an interpretation is bolstered by evidence that praise has a generalized positive effect on students' academic performance.

INTERPERSONAL ADEQUACY

Empathy

Empathic behavior, commonly referred to as social insight or social sensitivity, consists of the ability to share another's

affective state. Measurement devices have been available for assessing empathic behavior (Rothenberg, 1970; Feshbach and Roe, 1968; Hogan, 1969; Borke, 1971) with empathy being recognized as an important behavioral construct as early as the 1930s (Allport, 1937). Yet very little is known about the factors that facilitate its development. In our search of educational and child development research over the last decade we were unable to locate a single schooling effect study on the development of empathic behavior. However, one investigation (Rothenberg, 1970) suggests intelligence and empathy development are modestly but significantly correlated. Therefore, intellectual development, through positive school experiences, may likewise lead to increases in empathy skills.

Role-taking

Role-taking has typically been assessed through measurements of children's ability to see the social perspective of another individual (Bowers and London, 1965; Selman, 1971). The ability to recognize another's perspective has strong communication implications. It appears that early social experiences with peers may set the foundation for accelerated development in role-taking skills (Deutsch, 1973; Hollos and Cowan, 1973; West, 1974); however, investigations have demonstrated that remedial role training through the use of drama and video filming (Chandler, 1973) and role-switching strategies (Iannotti, 1978) can also be effective in improving children's role-taking ability. Chesler and Fox (1966) have provided educational material for classroom application of role-playing strategies. Therefore, it appears school activities which require social interaction and exchange of perspectives are likely to have positive facilitating effects on role-taking skill development.

Some further evidence suggests ability grouping or tracking may establish socialization conditions which determine students' differential levels of role-taking skills. In a comparison of low- and high-track seventh graders, Keller (1976) found high-track students held higher role-taking scores. These data tentatively imply that a tracking system may have a built-in

consequence of lowering certain types of social skills such as role-taking abilities.

Cognitive Complexity and Style

The early work of Werner (1948) denotes that children show perceptual and conceptual cognitive development with age (e.g., see Vacc and Greenleaf, 1975). While Coop and Siegel (1971) have noted the general differences in definition of cognitive style, the most popular definition has been advanced by Kagan et al. (1960: 74) as a "term that refers to stable individual preferences in mode of perceptual organization and conceptual categorization of the external environment." Further, Ausubel (1969) has argued that meaningful learning environments require learning tasks that are related to the existing cognitive structure of the child. Research by Robinson and Gray (1974) on cognitive style and school-learning tasks support Ausubel's proposal.

Practical examination of the relationship between cognitive style and method of instruction (e.g., Grieve and Davis, 1971) suggests a variety of schooling effects on individual differences in cognitive complexity development. In two related experiments, Davis and Klausmeier (1970) demonstrated that a highly analytic cognitive style was associated with rapid learning of a concept-identification task and that prompting or verbal training could be utilized in increasing the use of analytic cognitive styles. Further, Denney (1972) and Laughlin et al. (1969) have shown that adult modeling effects can be obtained on children's use of analytic cognitive styles that generalize to new situations or settings. Finally, two investigations suggest different types of schools may have influential impacts on cognitive style preferences. While Tamir (1975) has noted that Israeli schools have differing impacts upon the type of preferred cognitive styles by their students, the reported difference between city and agricultural schools may be explained by the work of Wicker (1969) in the United States. Wicker has tested the "frequency of interaction hypothesis" which assumes that cognitive differentiation is related to the degree of interaction in the environment. His data indicate that

high school students from small schools are not only more likely to be involved in a wider range of school activities and have more opportunities for performance, but are also more likely to have higher cognitive complexity scores than students from large schools. Therefore, the available data suggest instructional techniques, modeling effects, and school size can have important influences on students' cognitive complexity and style.

Sex Role Orientation

Sex role orientations may be viewed as psychological channeling mechanisms that direct behavior. While historically, masculine and feminine characteristics were appreciably more stereotypic, contemporary society seems to be evolving into a more flexible role orientation for both sexes. Nevill (1977) has reviewed research literature which suggests highly stereotyped women and men are less well-adjusted, while androgyny is more likely to be positively associated with psychological health.

But what do schools do to influence the development of sex role orientations? Given the wide variety and frequency of studies that address this question, only a few germane comments can be made here. Elsewhere, we have reviewed much of the recent data on teachers' interactions with boys and girls (Adams and LaVoie, 1977). Teachers are more demanding, punitive, and directive with boys than girls (Lee and Wolinsky, 1973). Girls are, in contrast, typically viewed as being closer to the ideal student than are boys (Goebes and Shore, 1975). Hence, teacher-student interactions are likely to reinforce a traditional sex role division.

Schools do have an important impact on sex role typing in ways other than through teacher-student interactions. Lee and Gropper (1974) have argued that traditional schooling reinforces a sex role culture through its educational practices. For example, reading materials for children of various ages are sex stereotypic (Child et al., 1946; Bereaud, 1975). The average child is given infrequent opportunity to read about varied role models. But school programs can have a counter-

balancing effect. Minuchin (1965) has demonstrated that children coming from modern educational programs which emphasize individualized development versus children from traditional programs that emphasize socialization toward general standards are more likely to maintain less conventional, more flexible sex role orientations.

Perhaps sex role stereotyping has no more rigid effect on behavior than it has upon vocational preferences and aspirations. Stereotypic standards of gender-appropriate roles influence young children to identify with powerful and demanding vocations if a boy, and nurturing vocations if a girl (e.g., see Looft, 1971). While certain liberalizing trends emerge with age (Garrett et al., 1977), one investigation suggests specific educational intervention can be utilized to facilitate a flexible sex role orientation to occupational perceptions. Flerx et al. (1976) have shown that the presentation of egalitarian sex role models through films and books can effectively modify stereotypic sex role beliefs about so-called masculine and feminine activities.

An excellent review of sex role stereotyping in the public schools has been provided by Saario et al (1973). We urge interested readers to turn to it for an in-depth coverage of school-related effects on this construct.

SOCIAL ADEQUACY

Flexibility

Flexibility is one way to measure adaptability. Individuals who are said to be flexible are thought to be adaptable to changes in their social environment. While we expected to find numerous "school effect" studies on the development of flexibility, our search of *Sociological Abstracts*, *Psychological Abstracts*, and *Education Index* over the last decade left us void of any clear-cut research on this topic. This is not to say, however, that related investigations were unavailable; rather direct study of the developmental school-related antecedents to flexibility were not found by this research team.

Leadership

Leadership has been given extensive attention by social scientists, but in recent years little has been done to identify specific school effects on leadership development. While commonsense logic would suggest that academic training would influence the development of leadership ability, it was difficult to locate educational research literature on this topic. This oversight is heightened by the realization that students who experience successful academic leadership experiences tend to improve in their self-concept of problem-solving ability and increase their classroom participation (McKeown, 1976). In contrast to leadership development, educators have recently shown extensive interest in career development. Perhaps we have put the cart before the horse, if one assumes leadership ability is a necessary precondition to career development.

Friendship

Social commitment or the capacity to form social alliances is an important attribute of social maturity. A wealth of psychiatric research literature has demonstrated poor social interaction precipitates mental illness and alienation. Therefore, the ability to develop friendship becomes an important social skill or capacity. Gottman et al. (1975) show that popular children, in comparison to their less popular peers, have more effective communication skills and a greater degree of social knowledge. But do schooling effects exist on this psychosocial maturity dimension?

Steffen (1974) and Schulman et al. (1973) have shown that educational techniques that emphasize interpersonal involvement and empathetic understanding can be utilized in classroom settings to increase social skill development. Further, Oden and Asher (1977) have verified that socially isolated children can be coached in social skill development to improve their sociometric play rating. Children can be shown how to cooperate, participate, communicate, and reciprocate with

their peers in such a way that their peers will change their perceptions of them. These findings and others (Blau and Rafferty, 1970) suggest children can learn friendship skills which make them more reinforcing to interact with in play settings. Recent research, likewise, suggests there are structural characteristics of classrooms which might influence friendship patterns, interactions, and possible social skill development. Hallinan (1976), in a comparison of open and traditional classrooms on friendship patterns, revealed open classrooms with more flexible organizational structure were more likely to have fewer social isolates and dominant sociometric leaders. A wider number of children in open versus traditional classrooms were found to receive a broad range of sociometric peer ratings. Thus, individual instructional techniques and organizational classroom structures which allow greater student-to-student contact are important contributing factors to social skills and friendship patterns.

Tolerance

Greenberger and Sorensen (1974) have specified tolerance of individual and cultural differences as an important dimension of social adequacy. To these scholars, tolerance includes (a) willingness to interact with people who differ from themselves, (b) sensitivity to the rights of others, and (c) awareness of both the costs and benefits of individual tolerance. In an extensive review of educational research literature, Carithers (1970) has noted that a series of investigations have documented that children's attitudes are greatly dependent upon others' attitudes (parents, peers, and teachers) and the child's perceptions of others' support for his attitudes. Further, Leach (1964) suggests schools either decrease or increase positive intergroup relations through teacher-pupil relationships, teaching curricula and materials, and teacher exchanges and international visits. However, two recent investigations question whether educational programs, by themselves, can effectively alter prejudicial attitudes. Vornberg and Grant (1976), in a test of the effects of educational exchange programs on ethnic group attitudes of adolescents, found a one-

year program was unlikely to effect positive attitude change. Similarly, Lessing and Clarke (1976) found an eight-week intergroup relations course was unlikely to change perceptions and attributions toward ethnic groups among junior high Caucasian adolescents. Recent research in a Georgia school district suggests a general developmental trend toward liberalizing racial attitudes in the South; however, the causal factor may be less one of educational programming and more one of interracial contact (Bullock, 1976). Therefore, school effects on tolerance may develop less as a function of school programs and more as a result of contiguity and interaction with varying ethnic populations.

CONCLUSION

This review leaves little doubt that various components of the schooling experience can have positive effects on the development of indices of psychosocial maturity. It is unfortunate that we, as educators, have chosen to primarily satisfy ourselves with the study of individual differences, leaving the more important questions related to intraindividual change and development unanswered. While teacher-student interaction, educational curriculum, and program philosophy factors can be found which are associated with predictive individual differences, we must still remain in question as to what factors facilitate, accelerate or retard intraindividual growth in psychosocial maturity. This review suggests that a host of variables can be potentially defined from the individual difference literature which might be examined for influences on long-range development. These variables, as other papers in this volume also demonstrate, range from macro- to micro-levels.

Perhaps the overriding variable which stands out in this review as an important factor in predicting individual differences in children's psychosocial maturity centers around social interaction. While progressivists contend learning is a social phenomenon, psychosocial development appears to be highly integrated with social exchange. Schooling experiences

which emphasize interpersonal contact were found in this review to be related to a host of psychosocial maturity indices (i.e., self-concept, delay of gratification, locus of control, aspirations, role-taking, cognitive style, sex role orientation, friendship, and tolerance). Hence the social interactional environment of schools should be scrutinized more carefully for schooling effects.

But how might we best proceed in this task? As this review shows, the most common way is to study the effects of different types of educational programs or teacher-student relations on children's development. While this orientation has much to offer, its heavy emphasis on environmental influences upon the child leaves an important factor out of consideration; that is, the child as a mediator of his own environment is ignored in this typical perspective. A growing body of psychological literature is coming to recognize the importance of the child as a mediating factor in his own social milieu. The child must be recognized as a person who sets his own evaluative standards, decides how he wishes to perform, and at times establishes the conditions which will require a particular type of behavior (Kuhn, 1978). Therefore, future directions in the study of schooling effects should begin to study both the school experience and the child (as a mediating, interacting organism) in a social setting. Only then might we truly come to understand individual differences and intraindividual change in psychosocial maturity behaviors as a function of school experiences.

One direction which is showing promise along these lines is the study of the individual's "perceived environment." The concept of perceived environments recognizes that individuals react to social settings based upon how they perceived them, which may or may not parallel how they may actually be. An excellent example to turn to is illustrated in the work of Jessor and Jessor (1977). These investigators have studied the influences of perceived support, control, compatibility, and influence upon the development of adolescent problem behavior.

In summary, we contend school effects can be identified which are associated with the development of individual differences in psychosocial maturity. The school, therefore, can

be an important socialization agent on personality and social development. However, we are still a long way from understanding which school factors exist that contribute to intra-individual growth and development. Finally, we argue that educational researchers must recognize the mediating influences of the internal psychological processes of the child and come to include them into future schooling effects research.

NOTE

1. For a technical review of issues concerning the use of developmental methodologies interested readers might refer to Baltes (1968), Schaie (1965), Riley (1973), Baltes et al. (1977), and Buss (1974b).

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