

Multifaceted Impact of Self-Efficacy Beliefs on Academic Functioning

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BANDURA, ALBERT; BARBARANELLI, CLAUDIO; CAPRARA, GIAN VITTORIO; and PASTORELLI, CONCETTA. *Multifaceted Impact of Self-Efficacy Beliefs on Academic Functioning*. CHILD DEVELOPMENT, 1996, 67, 1206-1222. This research analyzed the network of psychosocial influences through which efficacy beliefs affect academic achievement. Parents' sense of academic efficacy and aspirations for their children were linked to their children's scholastic achievement through their perceived academic capabilities and aspirations. Children's beliefs in their efficacy to regulate their own learning and academic attainments, in turn, contributed to scholastic achievement both independently and by promoting high academic aspirations and prosocial behavior and reducing vulnerability to feelings of futility and depression. Children's perceived social efficacy and efficacy to manage peer pressure for detrimental conduct also contributed to academic attainments but through partially different paths of affective and self-regulatory influence. The impact of perceived social efficacy was mediated through academic aspirations and a low level of depression. Perceived self-regulatory efficacy was related to academic achievement both directly and through adherence to moral self-sanctions for detrimental conduct and problem behavior that can subvert academic pursuits. Familial socioeconomic status was linked to children's academic achievement only indirectly through its effects on parental aspirations and children's prosocialness. The full set of self-efficacy, aspirational, and psychosocial factors accounted for a sizable share of the variance in academic achievement.

The recent years have witnessed a resurgence of interest in the self-processes by which human agency is exercised. Among the mechanisms of personal agency, none is more central or pervasive than people's beliefs in their capabilities to exercise control over their level of functioning and environmental demands. Unless people believe that they can produce desired effects by their actions, they have little incentive to act. The findings of diverse lines of research reveal that efficacy beliefs exert considerable impact on human development and adaptation (Bandura, 1992, 1995, in press; Schwarzer, 1992). Such beliefs influence aspirations and strength of goal commitments, level of motivation and perseverance in the face of difficulties and setbacks, resilience to adversity, quality of analytic thinking, causal attributions for successes and failures, and vulnerability to stress and depression.

The various psychological processes through which self-efficacy beliefs exert their influence are intimately involved in the development of cognitive competencies. Children's beliefs in their efficacy to regulate their own learning activities and to master difficult subject matters affect their academic motivation, interest, and scholastic achievement (Bandura, 1993; Schunk, 1989; Zimmerman, 1995). These lines of theorizing and research integrate the cognitive, metacognitive, and motivational mechanisms of self-regulation (Bandura, in press; Schunk & Zimmerman, 1994). Moreover, efficacy beliefs shape career aspirations and pursuits during early formative years. The stronger the students' beliefs in their efficacy, the more occupational options they consider possible, the greater the interest they show in them, the better they prepare themselves educationally for different ca-

reer pursuits, and the greater their persistence and success in their academic coursework (Betz & Hackett, 1986; Lent, Brown, & Hackett, 1994).

The preceding lines of research have added greatly to understanding of how efficacy beliefs affect intellectual development and functioning both directly and through their impact on mediating cognitive, affective, and motivational processes. However, children's intellectual development cannot be isolated from the social relations within which it is imbedded and from its interpersonal effects. It must be analyzed from a social perspective (Bandura, 1993; Vygotsky, 1962). In social cognitive theory, personal agency operates within a broad network of sociostructural and psychosocial influences in which efficacy beliefs play an influential regulative function (Bandura, in press; Elder, 1995).

The present program of research examines how diverse sources of influence, including socioeconomic, familial, peer, and self processes, operate in concert to shape the course of academic achievement. In the conceptual scheme guiding this research, the impact of the socioeconomic status of the families on children's academic achievement is mediated through its effects on parental academic efficacy and aspirations. Parents' sense of efficacy to promote their children's academic development and the educational aspirations they hold for them enhance their children's beliefs in their own academic efficacy and raise their aspirations. The children's beliefs and aspirations, in turn, contribute to their academic achievement both directly and by fostering peer acceptance and reducing depression and problem behavior that can undermine productive

engagement in academic pursuits. The proposed structure of the causal model is summarized schematically in Figure 1. The rationale and evidence for the different postulated paths of influence are presented in the sections that follow.

The first link in the conceptual model concerns the impact of socioeconomic status on familial belief systems. In social cognitive theory (Bandura, 1986, 1995), socioeconomic factors affect children's developmental courses principally through their impact on familial, peer, and self processes. Several lines of research lend support to this view. Elder (1995) has shown that economic hardship exerts its impact on children's developmental trajectories through familial processes rather than directly by undermining parents' sense of efficacy to cultivate their children's competencies and to safeguard them from environmental risks that can jeopardize successful development. Baldwin and his colleagues report that, when variations in parents' child management practices are controlled, socioeconomic status has no independent effects on child outcomes (Baldwin, Baldwin, Sameroff, & Seifer, 1989). In the conceptual model being tested, increases in socioeconomic status raise parental academic aspirations for their children and parents' sense of efficacy that they can promote their children's academic development.

The second pattern of influences in the conceptual model specifies the impact of parental beliefs on their children's appraisal of their own academic capabilities and their educational vision. Parental aspirations and perceived efficacy build children's sense of efficacy and academic aspirations. There is a small but growing body of evidence that

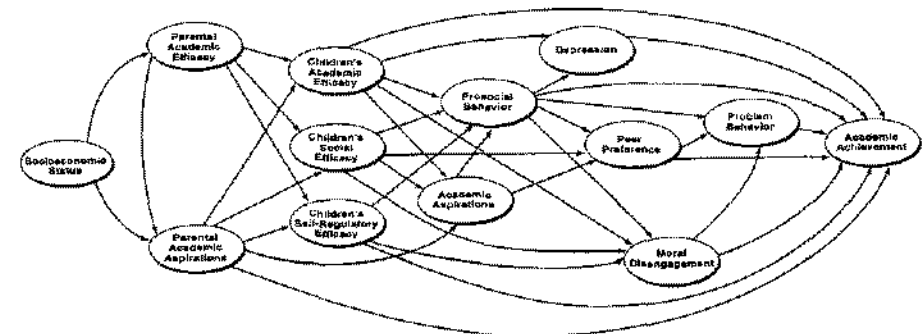


FIG. 1.—Proposed causal structure of the paths of influence through which parental and children's efficacy beliefs and academic aspirations affect academic achievement.

The research reported in this article was supported by grants from the Spencer Foundation to Albert Bandura and from the Johann Jacobs Foundation to Gian Vittorio Caprara. Correspondence concerning this article should be addressed to Albert Bandura, Department of Psychology, Stanford University, Stanford, CA 94305-2130, or Gian Vittorio Caprara, Dipartimento di Psicologia, Università Degli Studi di Roma, "La Sapienza," Via dei Marsi, 78, 00185 Roma, Italy.

parents who believe that they can exercise some influence over their children's development are more proactive and successful in cultivating their children's competencies than parents who doubt they can do much to affect their children's developmental course (Elder, 1995; Gross, Fogg, & Tucker, 1995; Schneewind, 1995; Teti & Gelfand, 1991). The developmental benefits of parenting efficacy have been verified across different socioeconomic statuses and family structures, under conditions of economic adversity that severely tax parental resilience, and in different cultural milieus.

Efficacy beliefs vary across domains of functioning rather than represent an undifferentiated disposition (Bandura, in press). Because the present study centered on children's academic achievement, parents were assessed for belief in their capability to cultivate their children's valuation and involvement in academic pursuits. It was predicted that parental academic efficacy would enhance children's sense of academic efficacy. Academically efficacious parents are likely to promote not only educational activities but interpersonal and self-management skills conducive to learning, especially if they hold high academic aspirations for their children. This could raise children's beliefs in their social and self-regulatory efficacy. However, because of the differing domains of functioning, parental beliefs in their academic efficacy were expected to have a weaker direct influence on children's perceived efficacy to form and maintain satisfying peer relationships and to resist peer pressure to engage in detrimental behavior. The latter two efficacy domains were included because both peer estrangement and problem behavior can detract from academic pursuits.

Aspirations are influenced by self-appraisal of capabilities. The stronger the perceived self-efficacy, the higher the goal aspirations people adopt and the firmer is their commitment to them (Bandura, 1991a; Locke & Latham, 1990). It was hypothesized, therefore, that parents with high academic efficacy would favor high educational aspirations, which in turn would foster scholastic aspirations in their children. Previous research corroborates the positive influence of parental academic aspirations on children's academic aspirations (Zimmerman, Bandura, & Martinez-Pons, 1992) and academic achievement (Entwisle & Hayduk, 1978; Marjoribanks, 1979). To the extent that academic aspirations convey to children be-

lief in their capability to fulfill them, it can raise their perceived efficacy for academic pursuits as well. Moreover, as previously noted, parents who have high aspirations for their children are likely to foster their self-regulatory efficacy to resist peer pressure to engage in activities that can jeopardize educational development and work hard to keep them out of trouble.

So far, the presentation of the conceptual model has centered on parental influences mediated through their impact on children's sense of efficacy and aspirations. Parents who have high educational aspirations for their children and believe they can contribute to their realization can also affect intellectual development independently of their impact on their children. They can do so by conveying to teachers the importance they place on education and serving as advocates on behalf of their children in relation to the school system. Parents' positive involvement in the educational process can increase teachers' educational commitment to the children. By influencing what teachers expect of their children academically, parents can have a more pervasive educational impact than if their influence is solely mediated through its effects on their children. Indeed, when equated for level of ability, children whose parents convey high scholastic expectations to the school system are generally placed in more challenging academic tracks and achieve greater academic progress than those whose parents show low involvement in the educational process (Dornbusch, 1994). Among economically disadvantaged parents, those with high academic aspirations and involvement in school activities generally have academically successful children (Kao & Tienda, 1995).

A direct effect of parental efficacy on academic achievement would operate largely through parental beliefs that they can influence school personnel and their instructional activities. However, the present study assessed parental efficacy to foster their children's engagement in academic activities rather than beliefs in their efficacy to influence the school system itself, which is quite a different matter. School staffs have mixed feelings about parental involvement in the school's instructional practices, especially when it subjects teachers to critical scrutiny and parental pressures to produce higher academic attainments. Most parents are understandably reluctant to try to encroach on the learning activities in school. Teachers' sense of instructional efficacy partly determines

the level of parental participation they encourage in their children's scholastic activities (Hoover-Dempsey, Bassler, & Brissie, 1987). Teachers of low efficacy discourage parental involvement in the educational process. Parents will have little effect on their children's schooling through influence on their teachers if they have little interaction with them. It is much easier for parents to influence the school system by conveying high valuation of education for their children than to try to alter teachers' instructional practices. Hence, it was hypothesized that parents' sense of academic efficacy would influence academic achievement, independently of its impact on their children, through its effects on parental academic aspirations.

The next phase in the proposed conceptual model specifies how children's aspirations and perceived academic efficacy affect their academic achievement both independently and through the mediated effects of peer relations, despondency, and problem behavior. A high sense of efficacy for self-regulated learning and academic mastery in children fosters scholastic achievement both directly and by raising academic aspirations (Zimmerman & Bandura, 1994; Zimmerman et al., 1992). Different facets of perceived self-efficacy additionally affect scholastic achievement through social and emotional effects that, depending on their nature, support or detract from educational development. A high sense of social efficacy promotes satisfying and supportive social relationships (Holahan & Holahan, 1987a, 1987b; Leary & Atherton, 1986; Wheeler & Ladd, 1982). Students who can get themselves to seek academic assistance from knowledgeable adults and classmates achieve higher mastery of academic coursework than those who distrust their social capabilities (Newman, 1991).

Children who are considerate of their peers and are accepted by them will experience the favorable school environment as more conducive to learning than if they behave in socially alienating ways and are repeatedly rejected by their peers. Such experiences can create dysfunctional modes of thinking and behaving and activate emotional states that impair academic accomplishments (Austin & Draper, 1984; Bandura, 1993). Moreover, students who doubt their intellectual efficacy are likely to gravitate to peers who do not subscribe to academic values and pursuits. Engagement in problem behaviors often results in disen-

agement from academic activities (Jessor, Donovan, & Costa, 1991). The relation between problem behavior and academic deficiencies has been well documented (Dishion, 1990; Hinshaw, 1992; Patterson, Capaldi, & Bank, 1991; Rutter, 1979). Over time, growing self-doubts of intellectual efficacy can have reverberating effects on developmental trajectories well beyond the academic domain. In the structure of the conceptual model, a high sense of academic and social efficacy fosters prosocial behavior, which builds peer acceptance (Ladd & Price, 1987; Ladd, Price, & Hart, 1988).

In the proposed model, a negative emotional and social life, in the form of peer rejection, despondency, and lack of prosocialness, fosters emotional and behavioral problems, that in turn undermine involvement in academic pursuits. A plausible alternative model was also tested in which the structure of the relationships involving socioeconomic status and the efficacy beliefs and academic aspirations of parents and children remain as in the original model, but the causal order of psychosocial factors and problem behavior is reversed. In this alternative conceptual scheme, emotional and behavioral problems produce peer rejection, despondency, and low prosocialness, which in turn detract from academic achievement.

Not all children of low efficacy resort to troublesome conduct. In the course of socialization, children adopt social and moral standards that serve as guides and deterrents for given courses of action. The sanctions children apply to themselves keep conduct in line with personal standards. However, self-sanctions do not operate unless they are activated, and there are many psychological processes by which self-restraints can be disengaged from detrimental conduct. Personal control is selectively disengaged by reconstruing negative conduct as serving worthy purposes, obscuring personal agency by diffusion or displacement of responsibility, disregarding or minimizing the injurious effects of one's actions, and blaming and dehumanizing those who are mistreated (Bandura, 1991b; Bandura, Barbaranelli, Caprara, & Pastorelli, in press). A low sense of academic and self-regulatory efficacy and low prosocial conduct increase the propensity to disengage moral self-sanctions from socially alienating and harmful conduct. Perceived self-regulatory inefficacy thus affects academic attainments by increasing proneness to involvement in detrimental activities that conflict with academic pursuits.

The final pattern of influences in the conceptual model concerns the emotional effects of perceived inefficacy. A low sense of efficacy to exercise control over stressors and highly valued outcomes gives rise to feelings of futility and depression. It does so in several different ways. One route to depression is through unfulfilled aspiration. People who impose on themselves standards of self-worth they judge they cannot attain drive themselves to bouts of depression (Bandura, 1991a; Kanfer & Zeiss, 1983). A second efficacy route to depression is through a low sense of social efficacy. People who judge themselves to be socially efficacious seek out and cultivate social relationships. Supportive relationships provide models on how to manage difficult situations and cushion the adverse effects of stressors. Perceived social inefficacy to develop satisfying and supportive relationships increases vulnerability to depression through social isolation (Holahan & Holahan, 1987a, 1987b). Much human depression is cognitively generated by dejecting ruminative thought (Nolen-Hoeksema, 1991). A low sense of efficacy to exercise control over ruminative thought contributes to the occurrence, duration, and recurrence of depressive episodes (Kavanagh, 1992). Through these different processes, perceived academic and social inefficacy give rise to bouts of depression. Depression undermines academic performance (Nolen-Hoeksema, Girgus, & Seligman, 1986).

This project extends the line of research on academic development in several important directions. It analyzes within a unified causal structure the direct and mediated paths of influence of sociostructural, familial, peer, and personal classes of determinants. Many of the factors are assessed by different methods with different sources, thereby reducing common method and source biases. Although some of the segments of the proposed model have been tested in prior research, the inclusion of an expanded set of factors from social cognitive theory can provide new knowledge on the codetermination of academic achievement. Parental and children's efficacy beliefs are emerging as influential determinants of socio-cognitive development (Bandura, 1995, in press; Zimmerman, 1995). The present study evaluates their contribution to academic development more fully within a broad network of influences. As will be shown later, perceived academic efficacy is

achievement than the traditional measures of self-concept of ability that are widely used in this field of study. Research that addresses itself to constructs that increase explanatory and predictive power hold promise of advancing understanding of cognitive development.

Method

Subjects.—The participants in this study were 279 children ranging in age from 11 to 14 years, with a mean age of 12 years. There were 155 males and 124 females.

The students were drawn from the sixth and seventh grades in two middle schools in a residential community located near Rome. The children enrolled in these schools as well as their mothers and teachers participated in the study. The study was structured to the parents and children as a project conducted through the University of Rome to gain better understanding of how children develop. The mothers not only consented to the study, but 88% of them participated in the project themselves. This community represents a microcosm of the larger society, containing families of skilled workers, farmers, professionals, and local merchants and their service staffs. Socioeconomic status of the family was assessed by father's occupation. Eleven percent were in professional or managerial ranks, 24% were merchants or operators of other businesses, 35% were skilled workers, 24% were unskilled workers, and 1% were retired. Fifty-four percent of the mothers were homemakers, 10% were employed in unskilled work, 25% in skilled work, and 11% were in executive and managerial positions. The socioeconomic heterogeneity of the sample adds to the generalizability of the findings.

Children were administered the sets of scales measuring the variables of theoretical interest in their classrooms by two female experimenters. The various measures were administered over a period of several days. In addition, data for the variables of interest were collected from the children's parents, teachers, and peers. The scales were administered individually to the teachers and parents.

Children's perceived self-efficacy.—Children's beliefs in their efficacy were measured by 37 items representing seven domains of functioning that formed the three basic efficacy factors described earlier. For each item children rated, using a 5-point response format, their belief in their level of

capability to execute the designated activities. These particular domains are part of a larger set of multidimensional self-efficacy scales (Bandura, 1990).

Perceived efficacy for academic achievement measured the children's belief in their capabilities to master different areas of coursework. These included mathematics, science, biology, reading and writing language skills, computer skills, and social studies. A second set of scales measured perceived efficacy for self-regulated learning (Zimmerman et al., 1992). Specifically, these scales assessed children's efficacy to structure environments conducive to learning, to plan and organize their academic activities, to use cognitive strategies to enhance understanding and memory of the material being taught, to obtain information and get teachers and peers to help them when needed, to motivate themselves to do their schoolwork, to get themselves to complete scholastic assignments within deadlines, and to pursue academic activities when there are other interesting things to do. The item, "How well can you get teachers to help you when you get stuck on schoolwork?" measured perceived self-efficacy to enlist social resources. The item, "How well can you study when there are other interesting things to do?" measured children's perceived efficacy to regulate their motivation for academic pursuits.

A third set of scales assessed efficacy for leisure and extracurricular activities involving mainly group activities. A fourth set of scales assessed children's self-regulatory efficacy to resist peer pressure to engage in high-risk activities involving alcohol, drugs, unprotected sex, and transgressive behavior that can get them into trouble. For example, the following item assessed perceived self-regulatory efficacy to resist peer impositions to use drugs: "How well can you resist peer pressure to drink beer, wine, or liquor?"

Perceived social self-efficacy measured children's beliefs in their capabilities to form and maintain social relationships and to manage different types of interpersonal conflicts. Self-assertive efficacy measured children's perceived capabilities to voice their opinions, to stand up to mistreatment or harassment, and to refuse unreasonable requests. "How well can you express your opinions when other classmates disagree with you?" is one of the items assessing perceived self-assertive efficacy. Perceived self-efficacy to meet others' expectations as-

sessed children's beliefs in their capabilities to fulfill what their parents, teachers, and peers expect of them and to live up to what they expect of themselves. "How well can you live up to what your parents expect of you?" typifies items in the perceived efficacy domain to fulfill others' expectations.

A principal components factor analysis with varimax orthogonal rotation revealed a three-factor structure. The first factor, *perceived academic self-efficacy*, included high loading on items measuring perceived capability to manage one's own learning, to master academic subjects, and to fulfill personal, parental, and teachers' academic expectations. The predictive validity of this aspect of children's beliefs in their efficacy is supported by findings of prior research (Zimmerman & Bandura, 1994; Zimmerman et al., 1992). *Perceived social self-efficacy* constituted the second factor. The items loading on this factor included perceived capability for peer relationships, for self-assertiveness, and for leisure-time activities. The third factor, *perceived self-regulatory efficacy*, was represented by items measuring perceived capability to resist peer pressure to engage in high-risk activities. These three factors constituted 15.7%, 8.3%, and 7.1% of the variance, respectively.

The reliability of these three factors was assessed by the squared multiple correlations of factor scores. Coefficients of .70 or better are indicators of stable factors (Tabachnik & Fidell, 1989). The estimated reliabilities were .87 for academic self-efficacy, .75 for social self-efficacy, and .80 for self-regulatory efficacy.

Social and emotional behavior.—Data on children's social and emotional behavior were obtained from different sources using diverse methods of assessment. The sources included the children themselves, their parents, teachers, and their peers. The methods of measurement included personality questionnaires and peer sociometric ratings.

Children rated their *prosocial behavior* on a scale containing 10 items developed by Caprara and his colleagues. It assessed degree of helpfulness, sharing, kindness, and cooperativeness. "I try to help others" is a sample item. To avoid a possible response bias, several control items were included as well in the scale. The factor structure and concurrent validity of this measure have been corroborated in studies relating children's self-ratings to level of prosocialness rated by parents, teachers, and peers (Ca-

prara & Pastorelli, 1993). The children and their mothers completed the same 10-item scale; teachers and peers rated the children's level of prosocial behavior on a subsample of six and three items from the larger scale. The alpha reliability coefficients were .79, .78, .88, and .75 for self, parents, teachers, and peer ratings, respectively. Because the different sets of scores were positively intercorrelated, they were standardized, averaged, and aggregated to provide a composite measure of prosocial behavior.

Children rated their severity of *depression* on the 27-item Children's Depression Inventory developed by Kovacs (1985). Its reliability coefficient was .86. The children's depression was also assessed by teachers on a 10-item scale, and by peers on a three-item scale developed by Caprara. The Cronbach alphas for these two scales were .91 and .88, respectively. The three sets of scores were positively intercorrelated beyond the $p < .001$ level. The correlations are self-peers, $r = .31$; self-teacher, $r = .20$; and teacher-peers, $r = .46$. The scores were standardized, aggregated, and averaged to create a composite measure of depression.

Sociometric peer nominations served as another source of assessment of *peer preference*. The children made their nominations from the roster of classmates in their particular classroom. Since this is a highly stable community, the children were thoroughly acquainted with each other. Children were presented with a booklet containing the names of children in their class. To assess peer popularity, the respondents selected the three classmates with whom they would like to play. To distinguish between children who were disliked by their peers and those who were simply ignored or regarded with indifference, children selected three classmates with whom they would not want to play as a measure of peer rejection. The assessment of both positive and negative status regarding social activities provided a good basis for gauging the impact of the quality of peer preference on academic development. Popularity was negatively correlated, $r = -.34$, $p < .0001$, with rejection. The number of positive and negative nominations the children received were summed separately and standardized. Following the common scoring procedure (Coie, Dodge, & Coppotelli, 1982; Newcomb, Bukowski, & Pattee, 1993), the measure of peer preference was obtained by subtracting the standardized rejection score from the standardized preference score.

Moral disengagement.—Each of the eight mechanisms of moral disengagement was measured by four subsets of items (Bandura et al., in press). They tapped children's readiness to resort to moral justification, euphemistic labeling, advantageous comparison, displacement and diffusion of responsibility, distortion of consequences, dehumanization, and attribution of blame with regard to different forms of transgressive conduct. To cite an example, "If people are careless where they leave things it is their own fault if they get stolen" is one of the items measuring attribution of blame to the victims. The item, "Kids cannot be blamed for misbehaving if their friends pressured them to do it" measures displacement of responsibility. The scale items encompass diverse forms of detrimental conduct under a variety of contextual conditions and in different types of social relationships. The detrimental activities involved physically injurious and destructive conduct, verbal abuse, deceptions, and thefts. The social contexts encompassed educational, familial, community, and peer relations. For each of the 32 items, children rated on a 3-point scale their degree of acceptance of moral exonerations for such conduct. Factor analysis of the items revealed a one-factor structure with all the items loading on the principal factor. Responses to the items were, therefore, summed to form a composite measure of moral disengagement. The alpha reliability coefficient for this measure was .83.

Problem behavior.—Problem behavior was measured by 85 items from the Child Behavior Checklist developed by Achenbach and Edelbrock (1978). Both the reliability and predictive validity of this widely used measure of problem behavior are well established (Achenbach, McConaughy, & Howell, 1987). The subscale concerned with social unpopularity was deleted to eliminate any overlap with the sociometric measure of popularity and rejection in peer preferences. The items dealt with a wide range of problem behaviors, including hyperactivity, aggressiveness, inattentiveness, transgressive conduct, anxiety and withdrawal, somatic complaints, and obsessiveness. A total of 15 teachers recorded, for the children in their particular classroom, whether they exhibit these various problem behaviors and, if they do, whether they do so only occasionally or often. The reliability coefficient for the total score was .95.

Parental academic efficacy.—Parents' beliefs in their parenting efficacy were mea-

sured by an eight-item subscale selected from the multidimensional scales of perceived parenting efficacy (Bandura, 1990). The items encompassed a diverse set of activities parents have to manage in promoting their children's academic development. Mothers recorded their sense of efficacy on 5-point scales varying in terms of the amount of influence they believed they could exercise over their children's development. The parental self-efficacy scale measured parents' judgments of their personal efficacy to promote their children's interest in, and valuation of, education, to motivate them for academic pursuits, to assist them with their schoolwork, and to help them to stay out of trouble in school. The following sample item measured parents' perceived capability to influence their children's schoolwork: "How much can you do to help your children to work hard at their schoolwork?" Parents with more than one child in the sample rated their aspirations and perceived efficacy separately for each child. Factor analysis of these items revealed a single factor that accounted for 46% of the variance. The alpha reliability coefficient was .81.

Parental and children's academic aspirations.—Academic aspirations and valuation of academic pursuits were measured by a set of seven items. Children rated on 5-point scales the importance placed on academic attainments by themselves, their parents, and their friends, and the level of academic performance expectations their parents had for them and they had for themselves. In addition, children rated the educational level they expected to complete and the educational aspirations their parents had for them. The educational levels ranged from completing middle school, high school, specialized technical school, some college work, to graduation from college. These items were combined into an index of academic valuation and aspiration. The mothers completed the four relevant items measuring their valuation of academic activities and the educational aspirations they had for their children. The alpha coefficients were .73 and .77 for the child and parental ratings, respectively.

Academic achievement.—The children were graded by their teachers for their level of academic achievement in the various subject matters both at mid-year and at the end of the academic term. The assessment comprised five gradations of academic attainment. The two sets of academic grades were combined to provide a composite measure

of academic achievement. The various psychosocial factors were measured prior to the assessments of academic achievement.

Results

Table 1 presents the means and variances for the different sets of variables. It also includes the matrix of relations among the various psychosocial factors and academic achievement. There were few correlates with sex or with age, which spanned a narrow range. Children get more depressed with age ($r = .16$). With regard to sex, girls are more prosocial ($r = .24$), less prone to moral disengagement ($r = -.20$), and have higher academic aspirations than do boys ($r = .17$).

Network of relationships.—The network of relationships is described briefly and then analyzed for how the various socio-cognitive factors operate in concert in the proposed causal structure. Socioeconomic level is accompanied by a high sense of academic efficacy and educational aspiration in parents, and prosocialness, academic aspirations, repudiation of moral disengagement, low problem behavior, and academic achievement in children. Self-efficacious parents hold high academic aspirations for their children. Parental perceived academic efficacy and educational aspirations are both consistently related to their children's perceived academic efficacy and aspiration, prosocial orientation, low depression and problem behaviors, and high scholastic achievement. In addition, parental aspirations are related to children's efficacy to withstand peer pressure for transgressive conduct and adherence to moral self-sanctions.

Children's beliefs in their academic efficacy and aspirations are similarly accompanied by prosocialness, peer acceptance, low despondency, repudiation of moral disengagement, a low level of emotional and behavioral problems, and high scholastic achievement. Children's perceived efficacy to resist peer pressure for detrimental conduct is also related to the psychosocial factors and scholastic achievement, although at a somewhat lower level. Children's social efficacy is primarily linked to their social functioning and emotional well-being. Those who are prone to moral disengagement are more socially discordant, despondent, heavily involved in troublesome behavior, and less academically successful.

TABLE 1
CORRELATION MATRIX FOR PERCEIVED SELF-EFFICACY, SOCIAL AND AFFECTIVE FACTORS, AND ACADEMIC ACHIEVEMENT

| | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---------------------------------|------|------|--------|--------|--------|--------|------|------|------|------|------|------|------|------|----|
| 1. Socioeconomic status | 1.66 | 0.69 | ... | | | | | | | | | | | | |
| 2. Academic efficacy (P) | 3.81 | 0.63 | .11* | | | | | | | | | | | | |
| 3. Aspirations (P) | 3.87 | 1.02 | .37*** | .05 | | | | | | | | | | | |
| 4. Academic efficacy (C) | 3.88 | 0.61 | .37*** | .29*** | .02 | | | | | | | | | | |
| 5. Self-regulatory efficacy (C) | 4.10 | 0.75 | .37*** | .29*** | .07 | .04 | | | | | | | | | |
| 6. Social efficacy (C) | 4.18 | 0.59 | .37*** | .29*** | .03 | .11* | .03 | | | | | | | | |
| 7. Aspiration (C) | 4.24 | 0.75 | .37*** | .29*** | .07 | .19*** | .13* | .07 | | | | | | | |
| 8. Prosocial behavior* | | | .37*** | .29*** | .22*** | .22*** | .13* | .13* | .13* | | | | | | |
| 9. Peer preferences* | | | .37*** | .29*** | .22*** | .22*** | .13* | .13* | .13* | .13* | | | | | |
| 10. Depression* | 1.75 | 0.27 | .37*** | .29*** | .22*** | .22*** | .13* | .13* | .13* | .13* | .13* | | | | |
| 11. Moral disengagement | 0.24 | 0.23 | .37*** | .29*** | .22*** | .22*** | .13* | .13* | .13* | .13* | .13* | .13* | | | |
| 12. Problem behavior | 0.24 | 0.23 | .37*** | .29*** | .22*** | .22*** | .13* | .13* | .13* | .13* | .13* | .13* | .13* | | |
| 13. Academic achievement | 3.10 | 0.73 | .37*** | .29*** | .22*** | .22*** | .13* | .13* | .13* | .13* | .13* | .13* | .13* | .13* | |

NOTE.—P represents parents; C represents children.
 * These variables represent standardized aggregates. For each variable, the means for the constituent measures are given first and the variances second. Prosocial behavior includes parent ratings (2.62; .22), peer ratings (1.4; .12), self ratings (2.48; .36), and teacher ratings (2.36; .47). Depression includes self ratings (.36; .26), teacher ratings (1.44; .46), and peer ratings (.13; .14). Peer Preference includes ratings of popularity (.13; .11) and rejection (.12; .15).
 * p < .05.
 ** p < .01.
 *** p < .001.
 **** p < .0001.

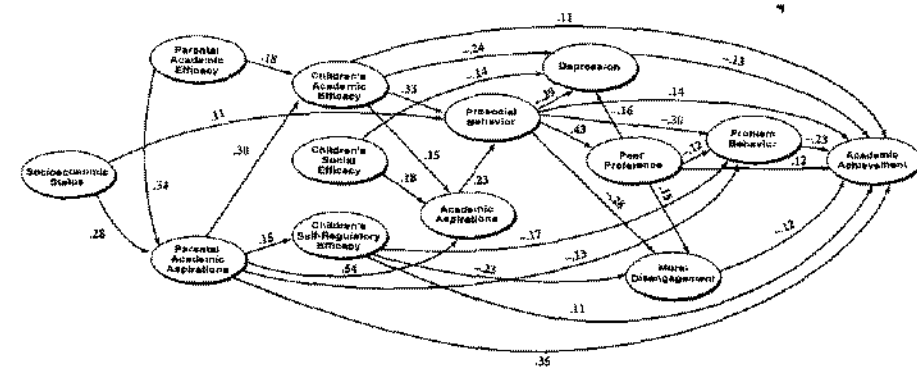


FIG. 2.—Path analysis of the patterns of influence through which parental and children's efficacy beliefs and academic aspirations affect academic achievement. All of the path coefficients are significant beyond the $p < .05$ level.

Paths of influence.—The conceptual model was tested on the covariance matrix using the EQS program (Bentler, 1989). Academic achievement was the outcome variable in the model. The results of the structural equation modeling are presented in Figure 2. It includes the path coefficients that are significant beyond the .05 level. The goodness of fit of the model to the data was corroborated by all of the fit indices considered. These tests yielded a nonsignificant chi-square of $\chi^2(47, 266) = 61.19$, a Normed Fit Index (NFI) of .93, a Non-Normed Fit Index (NNFI) of .97, and a Comparative Fit Index (CFI) of .98.

The impact of the socioeconomic status of the families on children's academic achievement is entirely mediated through parental academic aspirations and children's prosocial behavior. The higher the families' socioeconomic status the higher the academic and occupational aspirations they have for their children and the greater is their children's prosocialness. The influence of parents' sense of academic efficacy on scholastic achievement is mediated through its impact on children's beliefs in their capability to manage their own learning and master coursework. Parents who believe they can enhance their children's educability also hold higher educational aspirations for them. Parental aspirations contribute to children's scholastic achievement both directly and by raising their academic self-efficacy and aspirations, bolstering their self-regulatory efficacy to ward off peer pressure for detrimental pursuits, and lessening their involvement in problem behaviors that can detract from academic activities.

Children's belief in their academic efficacy is linked to scholastic achievement both directly and through its impact on academic aspirations, prosocial conduct, and lowering proneness to despondency. Perceived self-regulatory efficacy contributes to academic achievement both independently and through adherence to moral self-sanctions and a low level of problem behaviors. Children's belief in their social efficacy had no direct impact on academic achievement, but instead exerted its effect by promoting academic aspirations and reducing vulnerability to depression.

A prosocial orientation played an influential role in academic achievement both directly and by fostering peer liking and curbing depression, moral disengagement and problem behavior, each of which, in turn, accounted for variance in academic achievement. Prosocialness also mediates the influence of academic aspiration on scholastic achievement. Peer liking additionally contributed to scholastic achievement independently and by curbing trouble some behavior that can subvert academic pursuits and lowering vulnerability to depression.

An unexpected positive link was found between peer preference and facility in moral disengagement. Previous research revealed no consistent relation between moral disengagement and peer popularity (Bandura et al., in press). The direction of the relation between peer popularity and moral disengagement will vary, of course, depending on the types of peers with whom one affiliates. One can be rejected by prosocial peers and gravitate toward, and gain acceptance

from, dissocial or deviant peers (Cairns, Cairns, Neckerman, Gest, & Carie'py, 1988; Dishion, 1990).

The predicted link between proneness to moral disengagement and problem behavior was not verified. In everyday life, academic functioning is likely to be affected by the different types of problem behaviors operating in concert for any given individual. For this reason, the full set of problem behaviors was used in the analysis. They included such things as inattentiveness, anxiety, withdrawal, somatic complaints, and obsessiveness as well as conduct disorders. It is the injurious forms of problem behavior rather than the internalized ones that moral disengagement would affect. Support for this explanation is provided by path analyses performed with each of three main classes of problem behaviors separately. The analyses yielded a significant path from moral disengagement to aggression (.16) and to externalized problems (.19), but no significant path to internalized problems (-.09).

In sum, the conceptual model provides a good fit to the empirical data. The full set of sociocognitive factors accounts for a sizable share of the variance (58%) in academic achievement. The analysis further reveals that the alternative model, in which low prosocialness, peer rejection, and depression are the products of the various types of problem behaviors, does not provide an acceptable fit to the empirical data. It yields a highly significant chi-square, $\chi^2(35, 266) = 76.22, p < .001$, and the following values on the other fit indices: NFI = .92, CFI = .95, and NNFI = .89. Thus, the original model offers a better fit to the data than does the alternate one. In addition, a series of comparative tests was conducted for goodness of fit with each of the key postulated paths deleted. In every instance, deleting a key path produced a less adequate fit to the empirical data, as indicated by statistically significant chi-square values. The significance of the differences between the chi-square values for the full model and the models with a deleted path were also tested. The worsening of the model is significant in each comparative test.

Discussion

The findings of the present research verify the diverse paths of influence through which efficacy beliefs and aspirations contribute to children's academic achievement. Most of the links in the postulated causal

structure were empirically corroborated. The model not only fits the empirical data well, but provides a better fit than a plausible alternative model or ones in which a key path is deleted. Parents' beliefs in their efficacy to promote their children's intellectual development and the educational aspirations they hold for them were both influential factors in the academic process. These findings add to a growing body of evidence that parents' success in their developmental efforts rests partly on their beliefs that they can produce desired effects through their actions. Parents who have a high sense of parenting efficacy select and construct environments conducive to their children's development and serve as strong advocates on their behalf in transactions with educational and other social systems (Elder & Ardeit, 1992; Elder, Eccles, Ardeit, & Lord, 1993). In contrast, parents who are beset by doubts about their parenting capabilities are reluctant to behave proactively, quickly abort promotive efforts when they encounter difficulties, and fall back increasingly on negative sanctions in efforts to manage problems with their children (Gross et al., 1995). Even among mothers suffering from despondency, those who have a firm belief in their parenting capabilities are, nevertheless, quite resourceful in promoting their children's development (Teti & Gelfand, 1991).

The contribution of parental academic efficacy on scholastic achievement was mediated entirely through its impact on their academic aspirations and children's beliefs that they can regulate their learning activities and master coursework. Parental academic aspirations were linked to scholastic achievement in diverse ways. Parents who convey positive educational aspirations and act on the belief that they can help their children achieve them promoted their scholastic attainments both directly and by enhancing their cognitive and self-regulatory efficacy and raising their academic and occupational sights. Children whose parents have academic aspirations for them are disinclined to become involved in troublesome activities. A high sense of efficacy to resist peer pressure for detrimental conduct increases their likelihood of staying trouble free.

Parents with a high sense of efficacy affected scholastic achievement apart from their impact on their children through the academic aspirations they hold for them. As specified in the hypothesized model, no direct effect of parents' efficacy to influence their children's academic activities on their

children's academic achievement was found. As explained earlier, most parents are highly reluctant to encroach on the school's educational practices. However, we know from the research of Hoover-Dempsey and her associates that parents with a high sense of academic efficacy participate actively in classroom school activities (Hoover-Dempsey et al., 1987, 1992). Predictive relationships depend on the types of parental efficacy beliefs that are measured. It has now been amply documented that efficacy beliefs vary across different realms of functioning (Bandura, in press). The more relevant the assessed efficacy beliefs are to the activities of interest, the higher is their explanatory and predictive power. Parental sense of efficacy that they can influence what teachers expect of their children, how much time they devote to them, and how much they help them academically is, therefore, more likely to yield a direct path of influence than parental efficacy to increase their children's interest and involvement in scholastic activities.

The present research not only corroborates the influential role of parental aspirations for their children on their educational development (Kao & Tienda, 1995; Zimmerman et al., 1992), but identifies the diverse mediational paths through which parental aspirations exert their effects. In addition, the research establishes parental perceived efficacy to guide their children's learning as another key factor in the exercise of successful parental involvement in the educational process. Moreover, parental perceived academic efficacy determines, in large part, the academic aspirations they hold for their children. By providing guidance through standards and supportive efficacious action, parents serve as enabling influences in their children's academic lives.

Children who believe they can exercise some control over their own learning and mastery of coursework achieve success in their academic pursuits. Considerable research over the past several years has shown that beliefs of academic efficacy work in part by heightening motivation and fostering good strategic thinking (Bandura, 1993; Schunk, 1989; Zimmerman, 1995). The present findings reveal that such beliefs enlist a broader set of psychosocial processes that impinge upon academic functioning. They do so by altering the quality of peer preferences in ways that promote or diminish engagement in academic activities. Even the effects of children's academic aspiration is

mediated through interpersonal relationships.

Evidence that different facets of perceived self-efficacy operate on academic achievement through somewhat different mediational paths is another finding of the research as well as methodological significance. A major part of the influence of children's perceived academic efficacy is mediated through its impact on academic aspirations, prosocial peer relations, lowered vulnerability to depression, and adherence to moral self-sanctions. In contrast, perceived efficacy to resist peer pressure to engage in detrimental activities exerted its effects more by supporting adherence to self-sanctions for detrimental conduct and curtailing troublesome behavior, as well as directly. The influence of perceived social efficacy was mediated through academic aspirations and vulnerability to depression. Multifaceted measures thus provide a more refined view of causal structures than do conglomerate measures of perceived capability. Numerous studies have compared the relative predictiveness of domain-linked and global measures of perceived efficacy. The findings are consistent in showing that multifaceted measures have greater explanatory and predictive power than do omnibus ones (Bandura, in press). This raises the issue of whether the widespread use of global measures may be underestimating the influence of given psychosocial factors on developmental outcomes.

Much of the research on contributors to academic achievement assesses children's perceived capabilities in terms of self-concept of ability (Felson, 1984; Marsh & O'Neill, 1984). In path analytic tests, Pajares and Miller (1994) show that perceived self-efficacy is a much stronger predictor of academic achievement than is self-concept of ability, which makes only a marginal contribution. Other studies similarly document the value of specificity of self-efficacy assessment in explaining different facets of academic performance (Pajares & Miller, 1995). These findings call for refinement in how children's beliefs in their academic capabilities are conceptualized and assessed.

Belief in one's capability to exercise control over events that affect one's life is a protective factor against feelings of futility and despondency. However, all of the research linking perceived inefficacy to vulnerability to depression has been conducted with adults (Kavanagh, 1992; Maddux &

Acier, 1995). The results of this study similarly show that children's beliefs that they can manage scholastic demands and have the social efficacy to form and maintain satisfying peer relationships enable them to withstand adversities with reduced risk of despondency. The replication of the affective consequences of perceived inefficacy across age lends support to the generality of the self-efficacy mechanism in depression.

That problem behaviors detract from academic achievement is in accord with a well-documented relationship (Hinshaw, 1992; Jessor et al., 1991). Of special interest, however, is the influential role played by moral disengagement in the pursuit of academic activities. Indeed, the influence of self-regulatory efficacy and prosocialness is partially mediated through this factor. When moral standards are disengaged from detrimental conduct it can be carried out free from restraints of anticipatory self-censure (Bandura et al., in press). Skill in self-exoneration for transgressiveness is clearly not conducive to engrossment in scholastic activities.

Although proneness to moral disengagement contributed independently to academic achievement and partially mediated the effects of self-regulatory efficacy and prosocialness, the mediated path through problem behavior in the aggregate was not found. Previous research has shown that proneness to moral disengagement predicts aggressive and delinquent conduct (Bandura et al., in press). The findings of Elliott and Thinehart (1995) further corroborate the generality of the relation. Proclivity to moral disengagement retains its predictiveness for felony and misdemeanor assaults and thefts regardless of age, sex, race, religious affiliation, and social class. The relation between moral disengagement and problem behavior in the present study differed depending on the types of problem behaviors being measured. As would be expected, moral disengagement was accompanied by increased aggression and externalized problems but unrelated to anxiety, withdrawal, and other internalized problems.

The unrelatedness of perceived social efficacy and prosocial behavior is also probably due to the particular nature of the social activity assessed. It was confined to altruistic forms of behavior. People who have a high sense of social efficacy are good at forming social relationships (Holahan & Holahan, 1987a; Leary & Atherton, 1986; Wheeler &

Ladd, 1982), but it does not necessarily mean that they are highly altruistic. The evidence indicates that some are and some are not. The absence of a significant path between perceived social efficacy and peer preference also warrants some comment, especially given that a sense of social efficacy is known to promote social interactions. Peer preference, of course, measures whether one is held in high or low regard by one's peers, not how much one interacts with them. Peers do not form a homogeneous entity. They include social groupings that differ in their interests, values, standards of conduct, and the competencies they invest with importance. Predicting how perceived social efficacy should affect peer preference may, therefore, require information about the values of the prevailing peer clusters and the particular ones with whom given children affiliate. Popularity with dissocial peers may bring rejection from academically oriented peers. Thus, social efficacy may promote positive regard within one's reference group but low regard from peers who do not share the same values. This heterogeneity of peer liking suggests the need to consider the structure of peer relations and the patterns of selective association in the analyses of peer preferences.

A prosocial orientation reduces vulnerability to depression, but peer acceptance also serves as a protective factor. The latter path was not in the proposed model. Peer groups become a major socializing agency during early and later phases of adolescence. Whether children are held in high or low regard by their peers clearly has a significant impact on children's level of depression.

The finding that familial processes mediate the effect of socioeconomic status on children's academic development is in accord with studies of other developmental outcomes (Baldwin et al., 1989; Elder, 1995). However, parents' sense of efficacy that they can have some influence over their children's educational development was independent of their socioeconomic status. Parents had a higher sense of efficacy to promote their children's educability by fostering their interest in academic activities, linking cognitive development to future occupational options, monitoring their schoolwork, and keeping them out of trouble than to assist their children directly with their academic work. These types of promotive efforts are not confined to parents of high socioeconomic status. This is well documented by studies of children from econom-

ically impoverished backgrounds who went on to college and professional careers when it was uncommon to do so (Ellis & Lane, 1963; Krauss, 1964). In these families, the parents themselves could not provide the necessary resources and preparatory academic skills. However, parental valuation of education played a key role in setting the course of their children's educational development during their formative years. The academic values thus instilled were further developed by teachers. These evolving preferences led to selective association with college-oriented peers who, by their interest and example, promoted the attitudes, achievement standards, and cognitive skills conducive to intellectual pursuits.

There are several features of the present study that add to the reliableness of the obtained relationships. Data for the different classes of variables were obtained by different methods and from different sources, thus reducing common biases that can inflate relationships. The self-efficacy and psychosocial predictors were measured prior to academic achievement. Moreover, a number of the key posited paths of influence have been previously verified, some through systematic experimental variations of efficacy beliefs (Bandura, 1992, in press). These features remove some of the ambiguity concerning the nature and direction of causation. Nevertheless, causality should be interpreted with caution because the processes were studied correlationally over the course of a single academic year. The present research is part of a larger longitudinal project. The impact of efficacy beliefs on mediating psychosocial factors and academic achievement and their reciprocal interplay will be further tested longitudinally in a multiple panel design.

The findings of this research have a number of educational applications. They document the importance of the educational vision parents hold for their children and the parents' sense of efficacy that they can help their children realize those aspirations. Moreover, the study contributes new knowledge about the psychosocial paths through which these influences flow. Many of the models for restructuring educational systems place heavy emphasis on bonding parents to schools and increasing parental participation in the intellectual lives of their children (Comer, 1988; Levin, 1991, 1993). It is easy to prescribe parental participation, but difficult to achieve it, especially with parents who believe they cannot wield any

influence on how school systems operate. The benefit of examining cognitive development within a self-efficacy framework is that this regulative belief system is embedded in a theory of human agency. The theory specifies the origins of efficacy beliefs, their structure, the mechanism through which they operate, their diverse effects, and the modes by which they can be developed (Bandura, in press). This operative knowledge provides explicit guidelines for interventions that have enhanced the cognitive functioning of children exhibiting severe academic deficits (Schunk, 1995) and enabled parents to perform their parenting role more effectively (Cross et al., 1995).

Another important educational implication concerns the paramount role of self-regulatory influences in educational development. Schools try to equip students with the intellectual tools, agentic self-beliefs, and self-regulatory capabilities to educate themselves throughout their lifetime. The accelerated pace of technological change and growth of knowledge are placing a premium on capability for self-directed learning. In the not too distant future, students will be educating themselves increasingly with multimedia instruction presented electronically by master teachers outside the confines of the school. The knowledge gap will widen between good and poor self-directed learners. Some of the most innovative and productive research in the educational field is designed to provide new insights into the determinants and mechanisms of self-directed learning (Brown, 1984; Paris & Newman, 1990; Schunk & Zimmerman, 1994; Weinstein & Mayer, 1986; Zimmerman & Schunk, 1989).

Metacognitive theorists have addressed the pragmatics of self-regulation in terms of selecting appropriate strategies, testing one's comprehension and state of knowledge, correcting one's deficiencies, and recognizing the utility of cognitive strategies (Brown, 1984; Paris, Cross, & Lipson, 1986; Weinstein & Mayer, 1986). Metacognitive training aids academic learning. However, students do not necessarily transfer the skills spontaneously to dissimilar pursuits. Nor do they always use the metacognitive skills with regularity (Deshler, Warner, Schumaker, & Alley, 1983; Tharp & Gallimore, 1985). Clearly, there is room for improvement. In social cognitive theory, people must develop skills in regulating the motivational, affective, and social determinants of their intellectual functioning as well as the

cognitive aspects. Good self-regulators do much better academically than poor self-regulators after controls are applied for other possible determinants (Zimmerman & Martinez-Pons, 1986).

Self-regulatory skills will not contribute much if students cannot get themselves to apply them persistently in the face of difficulties, stressors, and competing attractions. Students' firm belief in their efficacy to manage their own motivation and learning activities provides the staying power and enhances performance accomplishments (Zimmerman & Bandura, 1994; Zimmerman et al., 1992). Knowledge gained from a broadened conception of self-regulation is now being fruitfully applied to the cultivation of academic self-directedness (Bandura, in press).

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Social Class Effects on Northeastern Brazilian Children's Conceptions of Areas of Personal Choice and Social Regulation

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NUCCI, LARRY; CAMINO, CLEANICE; and SAPIRO, CLARY MILNITSKY. *Social Class Effects on Northeastern Brazilian Children's Conceptions of Areas of Personal Choice and Social Regulation*. *CHILD DEVELOPMENT*, 1996, 67, 1223-1242. 2 studies examined middle- and lower-class Brazilian children's concepts of personal choice and social regulation. In Study 1, interviews of 40 middle and lower-class children (9 and 15 years old) revealed that children across classes distinguished moral from conventional issues on the bases of rule contingency and act generalizability criteria. Lower-class children, however, were less likely to view conventions as rule contingent and more likely to generalize conventional acts. In Study 2, interviews of 240 middle- and lower-class children (ages 8, 12, 16 years) found that across classes, children distinguished prudential issue from matters they treated as personal. Prudential issues were seen as subject to parental authority. Middle-class children were more likely to treat personal issues as matters of choice. With age, lower-class children increasingly tended to treat personal items as matters of choice, as by adolescence there were no class differences. Findings show that Brazilian children maintain a heterogeneous orientation to rules and authority which includes a domain of personal choice. Class differences indicate that hierarchical social structures affect children's sense of autonomy. However, developmental effects indicate that a domain of personal choice emerges among children across social classes.

Developmental psychologists of diverse perspectives have long held that the establishment of areas of children's personal autonomy are essential for processes of individuation and the child's construction of self and personal identity (Erikson, 1968; Mahler, 1979). More recently, it has been found that children make a conceptual distinction between these issues of personal autonomy and areas of moral and conventional regulation (Nucci, 1981; Smetana, Bridgeman, & Turiel, 1983). Interviews of children and adolescents have indicated that they justify

their claims to personal areas of behavior control or choice in terms of personal autonomy, agency, and individuality (Nucci & Lee, 1993). On the basis of these findings and related research and theory on the development of personality and the self (e.g. Damon & Hart, 1988), it has been argued that children's and adolescents' claims to an area of personal discretion and control are a necessary feature of human development (Nucci, in press; Nucci & Lee, 1993). Only three studies (Miller & Bersoff, 1992; Wainryb & Turiel, 1994; Yau & Smetana, 1995).

This research was supported by a Fulbright Research and Teaching Fellowship and grant from the UIC Research Board, the Midwest Consortium for International Activities, and the Brazilian National Research Council to the first author. Additional support came from funds from the Federal Universities of Paraiba and Rio Grande do Sul granted to the second and third authors. We thank Veronica Luna, Julio Rique Neto, Robson Medeiros de Araujo, Marcia M Avila Paz, and Sandra Helena Campos C. Reis assistants at the Federal University of Paraiba for their work on development, administration, and coding of interviews of children in Brazil. We thank Julio Rique Neto and Livia Magalhaes for coding of interviews in the United States. Finally, we thank Judith Smetana, Elliot Turiel, and Elsa Weber for suggestions regarding draft of the manuscript. Request for reprints should be addressed to Larry Nucci, College of Education M/C 147, University of Illinois at Chicago, 1040 West Harrison Street, Chicago, IL 60607.