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Measures of Socio-Emotional Development in Middle Childhood

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Measures of Socio-Emotional Development in Middle Childhood

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National Center for Education Statistics

February 2001

Preface

The Early Childhood Longitudinal Study, Kindergarten Class of 1998–1999 (ECLS-K) is an ongoing study by the U.S. Department of Education, National Center for Education Statistics (NCES) that focuses on children's early school experiences beginning with kindergarten. The study follows a nationally representative sample of approximately 22,000 children from kindergarten through fifth grade. Four rounds of data have been collected; fall of 1998, spring of 1999, fall of 1999, and spring of 2000. Additional spring follow-up data collections are scheduled for 2002 and 2004. The ECLS-K is conducted under the sponsorship of the National Center for Education Statistics, (NCES), with additional funding and technical support from the Office of Special Education Programs, Office of the Under Secretary Planning and Evaluation Service, and the Office of Bilingual Education and Minority Languages Affairs of the U.S. Department of Education, the Economic Research Service of the U.S. Department of Agriculture, the National Institute of Child Health and Human Development of the National Institutes of Health, and the Administration on Children, Youth and Families, Head Start Bureau of the U.S. Department of Health and Human Services.

Because of the magnitude and complexity of the ECLS-K, NCES and its contractor, Westat, continue to design and test the instruments that will be used in the 2002 and 2004 spring follow-up data collections. This paper is one of several that have been prepared in support of the ECLS-K design activities. While the information and recommendations found in this paper have contributed to the design of the ECLS-K, specific methods and procedures may or may not actually be incorporated into the final ECLS-K design. It is our hope that the information found in this paper not only will provide background for the development of the ECLS-K, but that it will be useful to researchers developing their own studies of young children, their families, and their educational experiences.

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Table of Contents

Overview

This paper will review several important constructs in the area of social and emotional development of children in grades 2 - 5. As noted in our earlier review (Meisels, Atkins-Burnett, & Nicholson 1994), assessment of social and emotional well being is a crucial component of the Early Childhood Longitudinal Study–Kindergarten Class of 1998-1999 (ECLS-K). The importance of social and emotional development has become increasingly evident in light of new research on the brain (Damasio 1994; Schore 1994) and the development of programs to prevent social and behavioral disorders in youth (Elias et al. 1997; Osofsky 1997). This review will draw upon aspects of several different literatures—children's social and emotional development, developmental psychopathology, resilience, and children's motivation for learning. Its purpose is to place in context a recommendation for a measure of socio-emotional development to be used with 8 - 10 year olds. Following this brief review, we will describe several direct measures that address the areas identified in our review.

Our earlier report on direct measures for children aged 4 - 8 years (Meisels et al. 1994) described four different types of measures: 1) self-report or self-rating scales, 2) observational measures, 3) peer evaluations, and 4) hypothetical measures. In this review of measures for 8 – 10 year olds we include only self-report or self-rating instruments. We exclude observational measures, due to the prohibitive cost involved in fielding such a procedure and the need for multiple raters over multiple occasions in order to obtain valid and reliable information from the observations. Peer evaluations (sociometric ratings and nominations) also pose operational difficulties because of the difficulty of obtaining meaningful ratings on children who move to new schools. Such mobility greatly increases the number of children who need to be consulted in any sociometric procedure. Since there may be few ECLS-K students in each class, data would need to be collected—and parental permissions obtained—from a very large number of subjects.

Mobility patterns will also decrease the amount of time children spend with the same group, thus reducing the reliability of the measure.

A hypothetical problem-solving measure was used in the field trials for the ECLS-K kindergarten and first grade battery. We adapted Dodge's cartoon stimuli for kindergarten and first grade (Feldman & Dodge 1987), but we did not find the developmental trends reported in his research. We were also unable to identify clear factors that were related strongly to any of the ECLS–K measures. Correlations with other measures were below .20. Most of Dodge's work (Dodge, Pettit, & Bates 1994; Weiss, Dodge, Bates, & Pettit 1992; Feldman & Dodge 1987) has been conducted with samples that are at high risk for childhood aggression and psychopathology. It is not clear that using this measure with older children from a nationally representative sample will yield useful information, and time for administration and scoring of responses is costly and in short supply.

Self-Concept/Self-Esteem

The most thoroughly researched area of social and emotional development in middle childhood using self-reports is the area of self-concept or self-esteem and perceived competence. Self-esteem has been examined in relation to children's age, sex, academic skills, and social skills.

Grade trends in self-concept. As children increase in age from 5 to 8 years, self-concept becomes increasingly differentiated. Marsh, Craven, and Debus (1991) examined interfactor correlations in a kindergarten through second grade sample and found the mean correlation decreased from .68 in kindergarten to .48 in second grade. Individual administration yielded more reliable results. Further examination of the normative sample for the Self Description Questionnaire-I (SDQ-I) illustrate that the interfactor correlation continues to decrease at least through grade 5.

Marsh and colleagues (Marsh, Barnes, Cairns, & Tidman 1984) found significant grade level effects for 9 of the 10 scales on the Self-Description Questionnaire for children in grades 2 - 5. The sample for this cross-sectional study included children from public schools in Sydney, Australia (second grade N = 170; third grade N = 103; fourth grade N = 134; fifth grade N = 251). A negative linear relationship was observed between grade level and ratings of physical abilities, physical appearance, reading ability/interest/ enjoyment, mathematical ability/interest/enjoyment, overall school ability/interest/ enjoyment, total academic self-concept, total non-academic self-concept, and total self-concept. As children progressed through school, their self-ratings in these areas decreased. This is consistent with the findings of three other studies cited by Marsh and his colleagues (Ruble, Boggiano, Feldman, & Loebl 1980; and Stipek 1981 in Marsh et al. 1984). A later investigation of the normative sample of 3,679 students in grades 2 - 9 (Marsh 1989) found a significant, primarily linear decline in self-concept with age from grades 2 through 6. Children's ratings of their relationship with peers also decreased through the fourth grade, and then increased in grade 5. No grade effect was found for children's reports of their relationship with their parents. Children's ratings of this relationship remained consistently high throughout the four grades.

In contrast, Wigfield and colleagues (under review) did not find changes in general self-esteem from grades 1 - 6, using seven items drawn from Harter's (1982) measure of self-concept. Previous work by Eccles and Wigfield and their colleagues (Eccles et al. 1989; Wigfield et al. 1991) noted that, although general self-esteem remains stable throughout the elementary grades, it is negatively affected by the transition to junior high school. If children make a transition to a middle school in fifth grade in ECLS-K, this transition may have an impact on their reported self-esteem. When we review the motivation literature, we note that, when examined by domain, a linear decline by age is common in competence beliefs of children in the early elementary years.

Differences in self-concept by sex. Wigfield and colleagues (1997) noted some minor interaction between age and sex in elementary school children's ratings of perceived academic competence. The youngest girls rated themselves more positively than two older cohorts of girls. This trend was not evident among the boys, and the main effects were related to sex (see section on sex differences in competence beliefs). Marsh et al. (1991) found that sex differences in ratings of physical ability increased with age.

Differences in overall self-concept between boys and girls are generally not significant (Harter 1982; Wigfield et al., under review). However, Marsh and colleagues (Marsh et al. 1984; Marsh & Smith 1987, Marsh 1989) found statistically significant differences for individual factor scores—particularly in physical abilities (boys have higher self-concepts) and reading (girls have higher self-concepts)—although sex differences in overall self-concept were not significant. Age, sex, and their interaction account for only a small amount of the variance (less than 2 percent) in scores (Marsh et al. 1991).

Additional influences on self-concept. Other work by Harter (1985, 1990) suggests that children's academic self-esteem is negatively affected when the child places high value on an activity or domain but holds lower competence beliefs in that domain. Alternatively, children may decrease the value they place on certain domains to protect their self-esteem when their perceived competence in that domain is lower.

The peer group influences adolescent goals, interests, and values, and affects their perceptions of general self-competence. Among early adolescents, academic competence is not as strong a predictor of general self-esteem as self-reported physical (appearance) and social competence (Harter 1990).

<u>Self-Reports of Emotional Well Being</u>

Research on children's ability to report their emotional well-being (other than competence perceptions) is limited. Children differ in their ability to recognize, monitor, and regulate their own emotions (Greenberg & Snell 1997; Eisenberg et al. 1997) and to respond to questionnaires about their emotional states. Emotions that are accompanied by behavioral indicators are easier to identify.

Eisenberg and colleagues (1997) cite numerous studies demonstrating that externalizing behavior problems are associated with emotionality, high intensity or reactivity, and low adaptability. In particular, the combination of high negative emotional intensity and low attention regulation is related to lower social competence. The ECLS-K will obtain information about adaptability, attention regulation, and self-control from both parents and teachers on the Social Rating Scale (SRS).

Internalizing problems (such negative emotional states as anxiety and depression) have not been found to be strong consistent predictors of later functioning. Some studies indicate moderate correlations between depression or anxiety and measures of competence, including academic achievement and peer relationships and behavior. But the majority of the studies are cross-sectional and do not identify the temporal relationship between internalizing problems and competent behavior (Masten & Coatsworth 1995).

<u>Developmental Psychopathology</u>

Most of the research on the development of childhood psychopathology has emphasized the development of such externalizing problems as aggression, violence, delinquency, and drug abuse. In discussing comprehensive or multifaceted studies of competence and psychopathology, Masten and Coatsworth (1995) reiterated the

conclusions of Kohlberg and colleagues (Kohlberg & Ricks 1972; Kohlberg, Ricks, & Sanrey 1984 in Masten & Coatsworth 1995) that academic achievement, antisocial behaviors, and the quality of peer relationships are stable predictors of later outcomes. The ECLS-K will collect direct (cognitive battery) and indirect (teacher reports on the Academic Rating Scale) assessments of children's academic achievement. Both teachers and parents will report on the presence (or absence) of antisocial behaviors.

Peer competence is a "key index of competence in childhood and adolescence" (Masten & Coatsworth 1995, p. 732). Relationships with peers, as measured by sociometric indicators, are strong indicators of both concurrent and future adaptive functioning. Second graders who are rejected and viewed as aggressive by peers are highly likely to exhibit externalizing problems in grades 2 and 5 (Hymel, Rubin, Rowden, & LeMare 1990). The outcomes for children who are aggressive/rejected are more negative than for those children who are only aggressive (Masten & Coatsworth 1995). Aggressive/withdrawn children are at risk for later substance abuse (Kellam et al. 1983 in Masten & Coatsworth 1995). Third grade peer rejection and peer-rated aggression scores make unique contributions to the prediction of sixth grade teacher ratings of adjustment, student self-ratings of internalizing problems, and parent ratings of externalizing problems (Coie, Lochman, Terry, & Hyman 1992). As noted in our introduction, it is not feasible to collect sociometric data on the children in the ECLS-K although information about internalizing and externalizing problem behaviors will be collected from both parents and teachers.

Hymel and colleagues (1990) conducted a study to identify the development of both internalizing and externalizing problems. They assessed children using multiple measures of social and emotional development in both second and fifth grades including the Loneliness and Social Dissatisfaction Questionnaire (LSDQ; Cassidy & Asher 1992), Harter's measures of perceived competence (Harter & Pike 1984; Harter 1982), the Class Play (Masten, Morison, & Pelligrini 1985), and other sociometric ratings. Their findings

indicate that social withdrawal is associated with negative self-perceptions in both second and fifth grades. Consistent with other studies, aggression was not associated with negative self-perceptions. Grade 2 peer assessments of social withdrawal and teacher assessment of internalizing problems were significant predictors of loneliness and low social self-esteem in fifth grade. This relationship may, in fact, be stronger than indicated in this study, given that the most isolated children were lost to follow-up before grade 5 (Hymel et al. 1990).

<u>Resilience</u>

This construct is reviewed here in order to provide additional background about the emergence of children's self-esteem. It is not assessed directly, although it may play a role in the constructs that do lend themselves to direct assessment.

In a review of resilient characteristics of children in middle childhood, Werner (2000) maintains that middle childhood has the strongest research base of any age period in childhood. She examined the developmental trajectory of children who experienced a large range of stressful life events, including poverty, parental psychopathology, and parental divorce. The samples for these studies were drawn from different regions of the U.S., and include rural, urban, and suburban children. These longitudinal studies all point to similar characteristics among resilient children: strong sense of competence and self-efficacy, well-liked by peers and adults, reflective rather than impulsive, use of flexible coping strategies, internal locus of control (belief that they can effect what is happening to them), and good intellectual skills (Werner, in press; Masten & Coatsworth 1995). In addition, Radke-Yarrow and Brown (1993) identified assertiveness and achievement orientation as common characteristics of children who were resilient when faced with the stress of affectively-disordered parents.

In their review of the literature, Kirby and Fraser (1997) identify the following as protective factors: an easy temperament, self-efficacy and self-esteem, and intelligence. They also note that the protective factors commonly cited by others, such as participation in hobbies, responsibility for regular household chores, and good performance in school, may operate by enhancing the child's self-esteem and self-efficacy.

Friendships are also a protective factor for children in stressful situations (Parker, Rubin, Price, & DeRosier 1995; Werner 2000). These friendships may provide both emotional and instrumental support. Those that offer the specific support needed to deal with a stressor have the greatest influence on children's adjustment (Parker et al. 1995). That is, if a child needs instrumental support, a friendship that offers only emotional support is not as helpful to a child as one that offers the needed instrumental support. In a similar manner, when emotional support is called for, a friendship that offers this support is more helpful to the child. However, the relationship between the support of friends and socioemotional adaptation varies as a function of the child's attachment security. Among eight-year-old children, "excessive reliance on the best friend for emotional support among those children presumably not receiving adequate support at home [i.e., children identified as having insecure attachment] was related to externalizing problems rather than to positive outcomes" (Booth, Rubin, & Rose-Krasnor 1998, p. 439). Other studies found that rejected eight-year-olds (according to sociometric assessment) who had friendships had lower self-esteem than rejected children who did not identify friendships (Vandell & Hembree 1994). Apparently, friendships operate differently for different children. Examining absence or presence of friendships is not sufficient for understanding a child's peer support network.

Richman and Bowen (1997a, 1997b) suggest that the environment needs to provide children with stable, caring relationships, "load balance," and meaningful participation and involvement in the environments of their microsystems. "Load balance" refers to a balance between the demands of the environment and the skills or capabilities of the

child. When the demands of the environment are high, more assistance is needed from the child's support system in order to meet those demands. Children with social competence, sense of autonomy, sense of purpose, and problem-solving skills will be more likely to be able to elicit the support necessary to meet the needs of their environment (Richman & Bowen 1997a).

Motivation

Motivation theorists address the beliefs that children have about their abilities and competence in a particular domain (including attributions regarding their successes and failures), as well as their interests and the types of goals they have. The term "goals" is used in reference to the different purposes children have for participating in academic endeavors. Typically, goal theorists examine mastery, also called task intrinsic or learning goals, and performance, which is sometimes referred to as extrinsic goals. With a mastery goal, the student is focused on intrinsic values and invests effort in increasing competence and attaining new skills. With performance goals, the student is focused on more public recognition of achievement in the form of grades, rewards, and more public acclaim. Mastery goals are self- and criterion-referenced; performance goals are norm-referenced and competitive. These goals are not mutually exclusive. Individuals may hold both mastery and performance goals depending on the task and the ecology surrounding the task. Individuals may also hold multiple goals in a given situation (McInerney, Roche, McInerney, & Marsh 1997; Wentzel 1991a, 1991b). Different instructional strategies, rewards, and evaluation techniques are associated with different goal orientations (Deci & Ryan 1985; Wentzel 1991a). In addition, research with adolescents indicates that the combination of goals that students choose differs among high, average, and low achievers (Wentzel 1991b). High achieving students report multiple learning and responsibility goals, and seldom report "having fun" as a goal. Average and low

achievers frequently report pursuing friendship and fun as goals. Low achieving students rarely report trying to earn approval from others, or social responsibility goals (i.e., being dependable and responsible). Wentzel (1991b) suggests that younger children are less able to coordinate social and learning goals. Thus, having multiple goals may decrease academic performance in younger students.

Academic intrinsic motivation. Gottfried (1985) examined levels of intrinsic motivation using both teacher- and self-report in a series of three studies with samples of black and white middle-class students in grades 4 - 7. Teachers rated children from very low (1) to very high (5) on intrinsic motivation in school subjects (reading, math, science, social studies, and general) using the following definition of academic intrinsic motivation: ". . . enjoyment of school learning characterized by an orientation toward mastery; curiosity; persistence, task-endogeny (orientation toward completing the task rather than performing for others); and the learning of challenging, difficult, and novel tasks" (Gottfried 1985, p.632). Children completed the Children's Academic Intrinsic Motivation Inventory (CAIMI; Gottfried 1985). Self-ratings of academic intrinsic motivation showed a significant moderate positive relationship to self-reported academic competence (r = .49 - .62), and a significant moderate negative relation to self-reports of anxiety (r = -.38 - -.52). In other words, children with higher academic intrinsic motivation reported less academic anxiety. In contrast, the relationship between achievement, as measured by the Stanford Achievement Test, and self-reported academic intrinsic motivation was lower (r = .24 - .44) (Gottfried 1985). Among teacher reports of children's academic intrinsic motivation, the strongest relationships were found between academic intrinsic motivation and achievement for mathematics.

Relationships with self-concept and achievement. Children's self-efficacy, competence, and ability beliefs regarding performance in a particular domain are related to the child's current and later achievement, the amount of effort extended in that domain, and the child's sense of overall self-worth (Wigfield et al. 1997; see Stipek & MacIver

1989, for a more detailed discussion of research in this area). Studies of the development of children's competence beliefs indicate that younger children are more positive about their competence. The majority of these studies used a cross-sectional design, particularly those focused on younger children.

Eccles and her colleagues (1993) argue that examining self-efficacy alone does not provide sufficient information about a child's motivation to participate in a given activity. The value that the child places on the activity also influences the effort put into the activity. Eccles et al. (1993) identify four components of subjective task values: "(1) interest in or enjoyment of the activity (similar to what others refer to as intrinsic motivation), (2) perceived importance of being good at the activity or involved in the activity, (3) perceived usefulness of the activity for short- and long-range goals (similar to what others refer to as extrinsic motivation), and (4) the cost of engaging in any particular activity" (Eccles et al. 1993, p. 831).

The Michigan Child Development Study (Eccles et al. 1993; Wigfield et al. 1997) is a four year longitudinal project studying the development of young children's beliefs about themselves and about tasks and the values and activities these children choose. The sample in this study is drawn from 10 suburban elementary schools in four school districts with approximately 300 children per grade. The majority (95 percent) of the sample is white and middle-class. The study obtained information from children in grades 1 - 6 in a design that used overlapping cohorts of children. Year 2 included children in grades 1 - 4, in year three the children were in grades 3 - 5, and in year 4 the children were in the grades 3 - 6.

Grade trends in perceived competence and intrinsic motivation. Children's competence beliefs in each domain declined linearly over time, with music competence beliefs showing the greatest decline and math competence beliefs showing the least decline over time (Eccles et al. 1993; Wigfield et al. 1997). Marsh (1989) also found that children's beliefs in their abilities declined in the elementary years. Harter's (1982) study

did not find this pattern, however, her scales are more general than those of Marsh and Eccles. In the third and fourth years of the Michigan Child Development Study, the children's competence beliefs did not differ significantly in the domains of reading, math, and sports (music competence beliefs were significantly lower than all others). Children's beliefs about their competence in reading declined in the early elementary years (grades 1 - 4), but remained stable in grades 4 - 6 (children's ratings of the importance and usefulness of reading also declined in grades 1 - 3). In three studies with different samples (Gottfried 1985), children's self-report of intrinsic motivation in reading decreased significantly from fourth to seventh grades.

Differences by sex. As with other measures of socio-emotional development, significant sex differences are present in children's competence beliefs. Girls are significantly more positive (p<.01) about their competence in the domains of reading and instrumental music, and boys are more positive in the domains of sports and math (Wigfield et al. 1997).

Social support: Teacher. Other theorists of motivation (Belmont, Skinner, Wellborn, & Connell 1992; Connell 1990; Connell & Wellborn 1991) suggest that children's motivation is internal and will be strong when the psychological needs of children are met. These needs include the importance of feeling competent, autonomous, and having positive relationships with others. Students' behavioral engagement in learning was predicted most strongly by the manner in which the teacher structured the classroom (i.e., the extent of autonomy allowed to the student) (Skinner & Belmont 1993). However, students' reported emotional engagement in learning was most strongly predicted by the teacher's relationship with the student (Skinner & Belmont 1993). Wigfield, Eccles, and Rodriguez (1998) note that "the implication of this finding is that positive relations with teachers are crucial to motivation" (p. 95). They cite other research (Birch & Ladd 1996; Goodenow 1993; Wentzel, in press) that lends further support to the importance to

student motivation of positive relationships with the teacher. Children are more likely to seek help when they perceive the teacher as warm and supportive (see Newman 1994).

Social support: Peer. In addition to the perceived support from teachers, students' sense of belonging in the classrooms is also related to their perception of the value of schoolwork to their peers (Goodenow 1993). Sociometric measures indicate that peer competence is related to both achievement and motivation, with rejected and aggressive students at greatest risk for poor achievement and low academic motivation (Wigfield et al. 1998). Among sixth and seventh graders, social acceptance by peers is strongly related to teacher reports of students' prosocial behaviors ($r=.71$) and strongly negatively related to teacher reports of students' irresponsible behaviors ($r=-.75$) (Wentzel 1994).

Social and academic goals. The study of the interaction of social and academic goals in influencing a student's performance is a new area of research; much remains to be discovered (Wigfield et al. 1998). Classroom factors may have differing effects on a student's social or academic motivation. Wentzel (Wentzel 1991a; Wentzel & Asher 1995; Wentzel & Caldwell 1997) emphasizes the importance of examining social goals as well as academic goals. Social goals are defined as including both prosocial and social responsibility goals. Wentzel (1991b) contends that goals addressing social responsibility may be particularly important when tasks are not intrinsically interesting, but still necessary for learning to take place. In her research, Wentzel (1994) found that prosocial goals (helping others, sharing learning with others, keeping promises) related positively to middle schoolers' peer acceptance. In addition, the degree of teacher support and positive regard students perceived (i.e., being liked by the teacher) was significantly related to their efforts to follow classroom rules and adhere to the norms of the classroom (Wentzel 1994).

Summary

The four areas reviewed—children's social and emotional development, developmental psychopathology, resilience, and children's motivation for learning— suggest several important parameters for assessment in the ECLS-K battery for grades 2 – 5. These include peer social competence, perceived academic competence, social support, and children's goals. The area discussed most consistently in the literature is the area of self-concept or self-esteem. Across all studies that included measures of self-esteem or perceived competence and achievement, significant relationships were found between achievement and these constructs. Longitudinal studies indicate that self-esteem has an effect on achievement even after controlling for initial ability. When self-esteem or perceived competence is measured more specifically (i.e., by domain), even stronger relationships are found. Self-esteem is also noted as a protective factor in studies of resilience. Children with higher self-esteem tend to have fewer internalizing problems, more social skills (as measured by peers and teachers), and higher academic achievement.

Social skill and social support are other areas for consideration in designing or selecting an assessment. Studies using sociometric measures find consistent relationships between later negative outcomes and peer rejection when combined with peer-reported aggression. Although students' self-reports of friendships do not have a consistent relationship with student outcomes, the literature on motivation found positive relationships between students' perception of their relationship with their teacher and students' reported emotional engagement in learning.

The combination of goals that the student holds (social and academic goals, as well as performance vs. mastery goals) influences student motivation and achievement among middle school and adolescent children. Research on children's goals is an area that is largely unexplored with elementary school children. However, children's self-reported

intrinsic motivation in specific domains is related positively to self-reported academic competence in those domains, and negatively related to self-reported anxiety.

When considering what information should be obtained directly from the child that would measure areas that might explain some of the individual variation in academic achievement (beyond that explained by initial ability), assessment of self-esteem by domain, perceptions of teacher support, and reported goals and motivation for learning are the most likely candidates. The next section will examine self-report instruments that address at least one of these areas. Among the self-rating instruments, we will review those that measure overall social and emotional development (i.e., we exclude those targeted primarily on behavior problems or such discrete areas as anxiety), and those that are focused on children's motivation. Each instrument is reviewed briefly in terms of background, strengths, and concerns, although where no strengths are identifiable, none are reported. The concluding section summarizes our recommendations and the items we propose for inclusion in a direct measure for children in grades 3 - 5.

Socio-Emotional Development Measures

Self-Concept/Self-Esteem Measures

Culture-Free Self-Esteem Inventories-Second Edition (CFSEI-2; Battle, 1992)

This scale has 30 (Form B) - 60 (Form A) dichotomously scored items and yields scale scores in Social, Parental, Academic, and General Self-Esteem. In addition, a "lie scale" can also be derived. The academic scale is not divided by domains. The CFSEI-2 Form A takes from 10 - 15 minutes to administer. Oral administration of this form is available on audiotape in French and Spanish. According to the author, between 1981 (when the first edition of the CFSEI was published) and 1990, the CFSEI was translated into German, Italian, Japanese, and Vietnamese and has been used throughout the world.

No problems with cultural bias were reported, even in these diverse cultures. Two forms were standardized on a United States and Canadian elementary population in grades 2 - 9.

Strengths. The CFSEI is available in multiple languages.

Concerns. Many of the items are worded using a negative connotation, for example, "I am a failure at school." In addition, some of the items (8/60) involve double negatives: "I am never shy," "I never do anything wrong." Particularly for young children, this is a difficult item-response format that is further complicated by such complex questions as "My parents dislike me because I am not good enough." The child is asked to respond yes or no, but it is unclear which part(s) of this statement he/she would be denying or affirming.

Harter Perceived Competence Scales

- Self-Perception Profile for Children (Harter 1985)

- Perceived Competence Scale for Children (Harter 1979, 1982)

- Revision of the Perceived Competence Scale for Children (Harter 1983)

The Self-Perception Profile for Children is designed for children ages 8 - 12 years and includes a general self-worth subscale and five separate subscales: scholastic competence, athletic competence, peer social acceptance, physical appearance, and behavioral conduct. Research with this and previous versions of the Perceived Competence Scale for Children lend support to the existence of a stable factor structure with children who perform at the level of at least an eight year old (Harter 1990; Marsh & Holmes 1990).

The internal consistency (coefficient alpha) for the subscales of the Perceived Competence Scale for Children (Harter 1982) ranges from .75 - .83 for the cognitive, .75 -.84 for the social, .77 - .86 for the physical, and .73 - .82 for the general subscale (Harter 1982). Three month test-retest reliability with a sample of 208 Colorado students was .78, .80, .87, and .70 for the cognitive, social, physical, and general subscales respectively. A

larger sample from New York (N = 810) yielded slightly lower but similar correlations over a nine month period (range .69 - .80).

Correlations between student and teacher ratings on the cognitive subscale increase from r = .28 in grade 3 to r = .32 in grade 4 to r = .50 in grade 5. With this same sample, the mean correlation of student ratings on the cognitive subscale with standardized, group-administered achievement tests (Iowa Test of Basic Skills) was r = .27 in grade 3, r = .40 in grade 4, and r = .45 in grade 5 (Harter 1982). On the physical competence subscale, physical education teachers completed ratings on a sample of 209 third - sixth grade students. Correlations between teacher and student ratings was .62 with minimal variation across the grades.

Harter's measures involve a unique response format designed to minimize socially acceptable response biases (Harter 1982). Children are asked to choose between two ends of a response continuum and to rate whether the statement chosen is "really true for me" or "sort of true for me." Each item is then scored on a scale of 1 - 4. For example, children choose between "Some kids forget what they learn" and "Other kids remember things easily," and then they decide how true this statement is of them. To decrease response sets, no more than two consecutive items are keyed in the same direction. Children use the entire scale in this type of format, yielding greater variability and normal distribution of the scores (Harter 1982). However, the response format of the Perceived Competence Scale has been criticized for its complexity (Marsh & Gouvernet 1989; Marsh & Holmes 1990) and it can be problematic for children who are of limited cognitive abilities or if appropriate training in the response format is not assured (Silon & Harter 1985; Marsh & Holmes 1990).

Strengths. The internal consistency of the scales is high. Low to moderate correlations were found between the cognitive subscale and measures of achievement. Interrater reliability is moderate.

Concerns. The cognitive subscale is a general academic scale (i.e., not differentiated by domain). The response format of the Perceived Competence Scale is rather complex, and can be problematic for children who are of limited cognitive abilities or if appropriate training in the response format is not provided (Silon & Harter 1985; Marsh & Holmes 1990).

Piers-Harris Self Concept Scale (The Way I Feel About Myself) (PH; Piers 1984).

This is one of the oldest measures of children's self-concept and has been used most widely in research (Marsh & Holmes 1990). The 80 items on this measure are dichotomously scored, yielding six scale scores and a total score: popularity, behavior, anxiety, physical appearance/attributes, intellectual/school status, and happiness/satisfaction. Only 65 of the items are used for the scale scores, although all 80 items are used to compute the total score. The factor structure is not consistent across studies even when the same sample of students was used on two separate occasions (Marsh & Holmes, 1990). About half of the items on the PH are negatively worded; this may be one of the difficulties with replication of the scales, particularly when used with young children. Young children have difficulty processing negative statements and their responses to these statements are not reliable (Marsh 1990; Benson & Hocevar 1986).

Strengths. The Piers-Harris is one of the oldest measures of self-concept still in use today. It has been used widely in research.

Concerns. The factor structure of the PH is not stable across samples. About half of the items on the PH are negatively worded. Several studies by Marsh and his colleagues (Marsh et al. 1984; Marsh & Holmes 1990) show that negative statements on self-esteem instruments (including the PH) are problematic for younger and less cognitively skilled children.

Self-Description Questionnaire-I (SDQ-I; Marsh 1990)

The SDQ-I is designed for children in grades 2 - 6 (ages 8 - 12). It is based on the Shavelson model of self-concept (Marsh, Byrne, & Shavelson 1988). This

multidimensional, hierarchical model views self-concept in terms of the personal perceptions about oneself that are formed through experience with and interpretations of the environment. Self-concept is particularly influenced by the evaluations of significant others and personal attributions concerning one's own behavior. Perceptions of personal behavior influence inferences about self in larger domains (e.g., social relationships influenced by peer and parent relationships) and these inferences in turn influence more general concepts of self. This model acknowledges that a child may feel positive self-esteem in one area (e.g., reading) and a negative self-concept in another area (e.g., physical abilities). Research with the SDQ-I confirms the differentiation of self-concept in children as young as second grade, with increasing differentiation from second to sixth grades. In other words, the factor structure remains the same, although the intercorrelation of factors decreases as children progress through elementary school (Marsh 1989; Marsh & Smith 1987; Marsh, Smith, & Barnes 1985; Marsh et al. 1984; Marsh, Smith, & Barnes 1984; Marsh, Smith, Barnes, Butler 1983). Research with the SDQ-I highlights the importance of examining self-concept by domain. Achievement shows a stronger correlation with student self-ratings of competence when assessed by domain. For example, Marsh, Relich, and Smith (1983) found that mathematics self-concept was most highly correlated with math achievement (r = .55) while correlations with other academic areas were lower (reading r = .21, all school subjects r=.43), and mathematics self-concept was uncorrelated with self-concept in the non-academic areas.

Multitrait-multimethod analyses indicate that agreement between student and teacher ratings is higher when examining a particular dimension of self-concept (Marsh & Holmes 1990; Marsh & Craven 1991). Self-ratings of competence are, however, more specific than inferred ratings of self-concept. While examining agreement between raters, Marsh and his colleagues (Marsh 1986; Marsh, Smith, & Barnes 1984; Marsh, Smith, & Barnes 1983; Marsh et al. 1983) discovered less differentiation among domains when others (teachers and peers) make inferred ratings of children's self-concept. Marsh

concludes that, unlike other raters (e.g., teachers) who utilize only an external frame of reference, children utilize both an internal and external frame of reference in forming academic self-concept. Marsh and colleagues (Marsh 1986; Marsh, Smith, & Barnes 1984; Marsh et al. 1983) note that children rate themselves more positively in areas of personal strength (e.g., mathematics may be higher than reading), even when others (peers and teachers) rate them equally across domains. A high self-concept in a given domain (e.g., reading) is most likely when the skills in that domain exceed the skills in other domains (internal frame of reference) and the skills are high relative to those of peers (external frame of reference) (Marsh 1986). Math and verbal self-concepts are only weakly correlated, despite the fact that math and verbal achievement are correlated. Due to the child's use of an internal frame of reference, path analysis of the relationships between self-concept and achievement indicate that the direct effect of reading achievement on math self-concept is actually negative (similarly, the direct effect of math achievement on reading self-concept is negative). That is, when rating their own competence in reading and math, the children compare their performance/abilities in reading to their performance/abilities in math. When reading achievement is high, perceptions of competence in math will be lower. An external frame of reference also influences the self-ratings. Children who are tracked into higher ability groups have lower self-concepts than those of similar ability who are in more heterogeneous groups (Marsh 1987; Marsh & Parker 1984).

The SDQ-I has eight scales each with eight items: three domain-specific academic scales (reading, math, school), two physical scales (physical abilities, physical appearance), two social relationship scales (peer relations, parent relations), and a global self-esteem scale. In addition, the SDQ-I provides a total academic scale score, a total non-academic scale score (sum of physical and social relationship scales), and a total self score (sum of the total academic and non-academic scores). The SDQ-I uses a five-point scale: false, mostly false, sometimes true/sometimes false, mostly true, and true. Twelve

negatively worded items are included in the SDQ-I to break response biases, but are not used in determining the scale scores. The factor structure of the SDQ-I has been researched extensively and support has been found for it cross-nationally and with children of different ability levels (Marsh, Chessor, Craven, & Roche 1995; Marsh & Holmes 1990; Marsh & Smith 1987; Marsh et al. 1984). Within each of the domain-specific academic scales, half of the items address competence beliefs (i.e., answer the question "Can I do this? Am I good at this?") and half the items address intrinsic motivation (i.e., answer the questions, "Do I like this?" "Do I enjoy this?").

The standardization sample for the SDQ-I included 3,562 students. The general self scale was not available at the time of standardization, thus research with that scale is more limited (N=739). The lowest internal consistency (coefficient alpha) was on the Relationship with Parents scale (alpha = .80). Internal consistency on the other scales ranged from .81 (general self) to .94 (total self-concept). The median coefficient was .86.

Stability of the student ratings of self-concept on the SDQ-I was examined with 143 fourth through sixth graders over a six month period within the same school year (Marsh et al. 1983). Findings indicate that the SDQ-I is stable over time (mean r for individual scales = .61; mean r for total scores = .65) with the exception of the Relationship with Parents scale, particularly at the fourth grade. The authors were unable to explain the low test-retest correlation on the Relationship with Parents scale. Marsh and his colleagues examined the changes in the self-concept ratings that did occur in the other scales. The reliabilities of the difference scores over two studies was high (mean coefficient alpha for individual scales = .74; mean coefficient alpha for total scales = .87), and a factor analysis of the difference scores demonstrated multidimensionality. This indicates that the changes in self-concept are systematic and reliable over time and are multidimensional. In addition, research with adolescents indicates that intervention can be successful in making positive changes in self-concept related to the goals of intervention (Marsh 1990).

Grade trends. The factor structure is consistent for grades 2 - 6, although the correlations among factors are stronger for second and third grades. The relationship between achievement self-concept in related areas (e.g., reading self-concept and reading achievement) is stronger than the relationship with unrelated areas. Non-academic self-concept was not significantly related to academic ability/achievement as measured by achievement tests or teacher ratings of achievement (Marsh et al. 1983; Marsh 1989; Marsh 1992).

Academic self-concept, physical ability self-concept, and general self-concept declines from second to fifth grades. Relationship with parents and relationship with peers remains stable (Marsh, Barnes et al. 1984).

Sex differences. When using self-ratings, boys' self-concept in physical abilities and girls' self-concept in reading are significantly greater than those of the opposite sex. Of interest, when teachers were asked to infer the child's self- concept, no sex differences were detected.

Time for administration. Marsh recommends reading the items aloud to children at a fairly rapid pace. Group administration of the questionnaire (excluding the time for instructions and examples) took approximately eight minutes with a sample of second to fifth grade children (Marsh, Barnes et al. 1984). The manual states that administration time (including instructions and examples) is approximately 15 - 20 minutes.

Strengths. The SDQ-I is a reliable measure of self-concept. The factor structure is strong and has been replicated in many studies. Validity has been demonstrated in studies indicating correlations with other measures of self-concept and correlations of the academic scales with academic achievement in the respective domain. The SDQ-I assesses self-concept in both academic and non-academic areas. The academic scales examine both competence beliefs and intrinsic motivation.

Concerns. The SDQ-I was developed and standardized in Australia. Although examination of the items does not indicate that there would be any difficulty in using

the SDQ-I with a U. S. population, empirical evidence with a U. S. sample is not available.

Self-Esteem Index (SEI; Brown & Alexander 1991)

This scale is a commercially-available, norm-referenced instrument for children from 8 - 18 years, 11 months. The 80 items utilize a four-point Likert-type scale: "Always true," "Usually true," "Usually false," or "Always false." The SEI yields a total score and four scale scores: Perception of Familial Acceptance Scale, Perception of Academic Competence, Perception of Popularity Scale, and the Perception of Personal Security. The Academic Competence scale addresses school, education, and intelligence in more general terms (as contrasted to examining competence in different academic domains), using such items as "I like going to school," or, "I'm not doing as well in school as I'd like to do." The authors estimate that the total SEI takes approximately 30 minutes to complete.

The SEI was standardized with a sample of 2,455 students from 19 states. This sample was nationally representative based on the 1980 Statistical Abstracts of the United States, except for the percentage of children for whom English is not the first language of the home. The SEI sample included only 2.5 percent compared with national percentages of 11.4 percent of the population residing in homes where English is not the primary language.

Exploratory factor analysis with a subsample of 550 protocols verified the proposed scales. At ages 8 - 10 years, the Cronbach Alpha coefficient ranged from .73 (peer popularity at 8 years old) to .92 (total SEI score at 10 years old). The internal consistency (alpha coefficients) increased with age and the standard error of measurement decreased with age. The Standard Error of Measurement (SEM) on the total score decreased from 5.4 at 8 years old to 4.2 at 10 years.

Concurrent validity studies were conducted examining the relationship between the SEI and teacher ratings of each student's self-esteem, the Piers-Harris Children's Self-

Concept Scale, Revised (Piers 1984), the Self-Esteem Inventories, School Form (Coopersmith 1984), and the Index of Personality Characteristics (Brown & Coleman 1988).

The teachers rated each student's self-esteem (N = 105) on a scale of 1(low self-esteem) to 9 (high self-esteem). The correlations of the teacher ratings with the scales on the SEI ranged from r = .21 (academic competence) to r = .44 (peer popularity scale). The correlations were statistically significant (probability levels were not included in manual) and are higher than many researchers find in interrater correlations between teachers and students. Only the Peer Popularity scale and the Total Self Esteem Quotient (SEQ) are greater than .33.

The studies with the Piers-Harris Children's Self-Concept Scale, Revised and the Index of Personality Characteristics did not include children younger than age 10 in the sample. The study with Self-Esteem Inventories, School Form (Coopersmith 1984) was conducted with a sample of 24 students aged 8.6 – 9.5 years. Correlations ranged from r = .01 (School Academics with SEI Familial Acceptance) to r = .93 (General Self with SEI Personal Security). Seventy-six percent of the correlations were greater than .40. Correlations with the SEI Academic Competence scale were the lowest (range = .04 - .33) and Personal Security were the highest (r = .57 - .93).

Strengths. The SEI demonstrates stronger interrater agreement between students and teachers than many other measures of self-esteem.

Concerns. The SEI is lengthy (80 items). In the validity studies that involve the ECLS-K targeted age group, correlations with other Self-Esteem Inventories, School Form were low in the area of academic competence. The Academic Competence Scale on the SEI is general and does not address specific domains. Both positive and negative items are included in computing the scale scores. As indicated in the review of the Piers-Harris, this is problematic for younger children.

Social Skills Self-Report

<u>Loneliness and Social Dissatisfaction Questionnaire</u> (LSDQ: Asher et al. 1984; Asher & Wheeler 1985; Cassidy & Asher 1992)

As noted in our earlier review (Meisels et al. 1994), the Loneliness and Social Dissatisfaction Questionnaire (Asher et al. 1984; Asher & Wheeler 1985; Cassidy & Asher 1992) consists of 16 questions about feelings of social adequacy (e.g., "Is it easy for you to make new friends at school?"), loneliness (e.g., "Do you feel alone at school?"), and subjective estimations of peer status (e.g., "Do the kids at school like you?"). In addition, there are eight "filler" items focusing on hobbies and preferred activities (e.g., "Do you like playing card games?"). Early versions of this instrument required children to respond to a five-point Likert scale. The current adaptation asks children to respond to each question by answering "yes," "no," or "sometimes." Factor analysis reveals that the items load on a single factor with low to moderate correlations (.25 - .58).

<u>Strengths</u>. This instrument has been used in conjunction with peer sociometrics with elementary age children (K - grade 6). The self-report of loneliness discriminated children with low peer acceptance (i.e., those who were rejected by their peers). A subscale of three items from this instrument ("Do you feel left out of things at school?", "Do you feel alone at school?", and "Are you lonely at school?") obtained the same relationship with sociometric status as the full scale. Such questions should be included to assess children's perception of their own social status.

<u>Concerns</u>. This measure has only been used with small samples, and test-retest reliability has not been demonstrated. It examines a rather narrow construct. Peer competence is measured on some of the self-concept and perceived competence measures.

Social Skills Rating System –Student Form (SSRS; Gresham & Elliot 1990)

The 34 items on the student elementary form on the SSRS are designed to measure cooperation, assertion, self-control, and empathy among children in grades 3 - 6. Students do not rate negative (i.e., problem) behaviors. Similar to the parent and teacher form of the SSRS, students use a three point frequency rating (0 = "never", 1 = "sometimes", 2 = "very often"). The student form is the weakest element of the SSRS system of measurement. The internal consistency of the subscales ranges from .51 (Assertion) to .74 (Empathy). More than half of the factor loadings on the cooperation, assertion, and self-control scales are at or below .40. The factor loadings on the empathy scale are .42 - .59. This is particularly troubling because the interfactor correlations are .49 - .64. The alpha coefficient for the total scale is .83, indicating acceptable reliability on the total score.

Stability (test-retest reliability) is also higher for the total scale, but still substantially lower than for the parent and teacher assessments of the student's social skills. With a sample of 171 children, the four week test-retest reliability was .54 for Cooperation, .52 for Assertion and Self-control, .66 for Empathy, and .68 for the Total Scale.

Similar to measures of self-esteem, interrater correlations are low. Parent-student correlations on similar scales are .03 (self-control), .08 (assertion), and .12 (cooperation and total score) (N=384). Teacher-student correlations on similar scales are .10 (self-control), .17 (assertion), .29 (cooperation) and .22 (total scale) (N=548). It is not surprising that the self-control scale has the lowest interrater correlation with students. A comparison of the items on the parent and teacher form with the items on the student form reveals that parents and teachers rate the frequency with which the child adheres to the norms of the home and/or classroom while students rate more specific behaviors. For example, teachers and parents are asked to rate the frequency with which the child "Responds appropriately to teasing by peers" (#11 - Teacher form) or "Responds appropriately to teasing from friends or relatives of his or her own age" (#32 - Parent

form). The student is asked to rate the frequency with which "I ignore other children when they tease me or call me names" (# 28 - Student form). In addition, each of the forms has items that are not on the parallel scales on the other forms (e.g., "I use a nice tone of voice in classroom discussions" on the Student Form Cooperation scale has no parallel item on the teacher or parent forms). Only 20 - 40 percent of the items on each scale are common across forms.

Correlations between the SSRS Student form and the Child Behavior Checklist-Youth Self-Report Form (YSR; Achenbach & Edelbrock 1987) with a sample of 47 students range from .01 to .33 for the positive scales on each measure. The SSRS Student form showed a range of correlations with the Externalizing Behavior problem scale on the Youth Self-Report from r = -.21 (Self-Control) to r = -.48 (Cooperation and Assertion). It is interesting to note that the SSRS Self-Control scale had the weakest relationship (in absolute value) with the Externalizing Problem Behaviors. The YSR is used with children age 11 and older, thus the sample for this study was composed of sixth graders.

The SSRS Student Form and the Piers-Harris Self-Concept Scale (Piers 1984) were administered to a sample of 79 students. The strongest relationships were those between the Behavior scale and the Intellectual/School Status scale on the Piers-Harris and the SSRS, particularly the Empathy (r = .41 with both PH scales), Cooperation (r = .35 [Behavior] and .36 [Intellectual/School Status]), and Assertion scales (r = .39 [Behavior] and .33 [Intellectual/School Status]).

Strengths. The standardization sample is nationally representative of the U. S. population. The teacher and parent scales are psychometrically strong measures. Adaptations of the teacher and parent scales are being used in ECLS-K.

Concerns. The response scale is limited. Interrater reliability is low. Evidence for validity is limited and weak. Construct validity is low to moderate. The factor structure is not strong (lower internal consistency than other scales, low to moderate factor loadings) and has not been replicated.

<u>Social Support Self-Report</u>

<u>My Family and Friends</u> (Reid, Landesman, Treder, & Jaccard 1989).

This scale assesses the perceptions of social support of children 6 - 12 years old. A structured interview format uses 12 dialogue scripts that address areas of emotional support, concern and information, instrumental support, and companionship. Interviewers ask the child to whom (s)he would go for each type of support in terms of frequency, and then ask the child to rate satisfaction with the type of support this person provides. Children also rank the individuals in terms of support received from them. My Family and Friends is administered in two 15-minute sessions. Research with this instrument (Reid et al., 1989) indicates that children who are experiencing major family upheavals provide very different rankings and ratings between sessions.

<u>Strengths</u>. This is the only measure of perceived social support for children of this age group. It has been used in other studies with interesting results (Booth, Rubin, & Rose-Krasnor 1998). Children who indicated a best friend as a source of emotional support scored higher on measures of social engagement and acceptance. However, an interaction was found between attachment security (assessed at age 4) and the ranking given to best friends for emotional support (assessed at age 8). Among insecurely attached children, greater reliance on a best friend for emotional support was significantly related to more externalizing problem behaviors.

<u>Concerns</u>. This measure will require more training than other measures. Research on the validity of this measure is limited.

<u>Perceptions of Teacher Support Measures</u>

<u>Patterns of Adaptive Learning Survey</u> (PALS; Midgley et al. 1996).

This survey includes both a student and teacher form. The student form is designed to assess the student's goal orientations and efficacy beliefs and their perception of the

motivation and instructional strategies used by the teacher. The PALS manual reports its use with a sample drawn from six school districts. Average SES in these districts ranged from low to middle income; the sample was ethnically diverse. The items ask children to make ratings on a 1 – 5 Likert scale with anchors at 1 ("not at all true"), 3 ("somewhat true"), and 5 ("very true"). Each of the subscales has 4 - 7 items. The internal consistency of the subscales ranges from .64 (Extrinsic Goal Orientation scales) to .86 (Personal Ability Goal).

All items are read aloud to children. Administration of the full survey takes approximately 40 minutes. It is not recommended for use with children below fourth grade. There is no report of interfactor correlations.

The teacher survey assesses motivation and instructional strategies. Teachers rate each statement about strategies using a scale of 1 – 5 with anchors at 1 ("strongly disagree"), 3 ("somewhat agree"), and 5 ("strongly agree"). The wording of some of the items appear to direct teachers toward socially acceptable responses (e.g., item # 40. "A lot of work students do is boring and repetitious").

Strengths. This measure specifically addresses goal orientation. Results with this measure show relationships among goal orientations, instructional practices, and achievement.

Concerns. This measure is not intended for students below grade 4. It takes a long time to administer. The alpha coefficients of the scales that have only four items are below .70. Most of the scales include items with sentence structures that have multiple clauses (e.g., "An important reason why I do my school work is because I want to get better at it"). This may be difficult for some children to comprehend in a consistent manner because some children may rate what is an important reason for them, and other children may rate why adults think that this is important for them to do. The Academic Self-Handicapping Strategies includes sentences that are particularly lengthy and complex (e.g., "Some

students look for reasons to keep them from studying [not feeling well, having to help their parents, taking care of a brother or sister, etc.]. Then if they don't do well on their school work, they can say this is the reason. How true is this of you?").

Michigan Childhood Development Study (Eccles, Wigfield, Harold, & Blumenfield 1993; Wigfield et al. 1997).

The measure used in this study examines children's competence beliefs and the values they assign to different activities. Exploratory and confirmatory factor analyses indicated that children hold distinct competence beliefs and assign differing values to math, reading, music, and sports. The competence belief scales have five items each for the domains of math, reading, music, and sports. The subjective task values scale includes four items: two items pertaining to interest, one identifying perceived importance, and one involving perceived usefulness. In addition, seven overall self-esteem items drawn from Harter (1982) comprise a separate factor. This measure is being used in the children's supplement for the Panel Study of Income Dynamics.

These authors report scale reliabilities from .72 - .82 in the competence belief scales in second and fourth grades (music represented the least stable scale). Among the subject task value scales, reliability was lower, ranging from .62 - .86 in the second and fourth grades. Children's perceptions of their math and reading ability and their subjective task value beliefs were differentiated by the end of first grade (Eccles et al. 1993).

Strengths. This measure has been used to assess children longitudinally and is being used in another national study. Perceived competence is measured by domain. This measure also examines whether the child values that domain (i.e., does the child consider it interesting, important, and/or useful?).

Concerns. Available research using this measure is restricted to samples that include only middle-class white samples.

Teacher As Social Context (TASC; Belmont, Skinner, Wellborn, & Connell 1992).

The TASC has both a teacher report of interactions with each child and student reports of their experience interacting with teachers (Belmont et al. 1992). For the purposes of the ECLS-K, we will examine only the child report measure. Three major constructs each with four subscales are assessed in the TASC:

(1) Involvement, including affection, attunement, dedication of resources (time, energy, assistance), and dependability;

(2) Structure, including expectations, contingency, instrumental help and support, and adjustment of teaching strategies;

(3) Autonomy support, including respect, choice, relevance, and teacher controlling behavior (the latter is reverse coded).

With the exception of controlling behavior, all of the subscales include both positive and reverse-coded negative items. Scores on the subscales are based on the average rating. They range from 1 - 4 with 4 indicating higher levels of involvement, structure, and autonomy support. Each item is rated on a four point scale: "not at all true," "not very true," "sort of true," and "very true".

A short form is available (TASCQ-Short Form) that consists of three scales (no subscales). These scales include eight items (both positive and reverse-coded negative items). Reliability was examined on a sample of 500 children in grades 3 - 6. Internal consistencies (alpha coefficient) on these scales were acceptable: .76 for the Structure scale, .79 for the Autonomy support scale, and .80 for the Involvement scale. The authors do not explain how they chose the items for the short form, and do not describe the sample characteristics. A more recent study (Skinner, Zimmer-Gembeck, & Connell 1998) used the Involvement and Structure scales with higher reliability estimates ($r = .76$ - $.85$ for Teacher Involvement and $r = .84$ - $.91$ for Teacher Structure, grades 3, 4, and 5).

Strengths. This measure is the only one that assesses the child's perception of the teacher and of the support received from that teacher. A short form is

available. Children's fall report of teacher context is significantly and positively related to children's perceived control in the spring and children's average achievement (Skinner et al. 1998)

Concerns. On the negative items, children need an understanding of double negatives in order to rate them (e.g., item 11 on the short form is "My teacher doesn't make it clear what he/she expects of me in class" and is rated as "not at all true", "not very true", "sort of true", or "very true"). Altering these items so they are all worded positively may affect the reliability of the scales. Research in this area has found that negative statements are not necessarily the opposite of positive statements.

Research on this measure is limited to samples that are primarily Caucasian, middle-class students.

Recommendations

In our summary of areas important to assess, we discussed the centrality of self-concept across all literatures. We also noted the importance of assessing self-concept or perceived competence by domains. The Self-Description Questionnaire-I (SDQ-I; Marsh 1990) is the strongest candidate for measuring self-concept multidimensionally. In a recent volume reviewing self-concept measures, Byrne (1996) states that "There is absolutely no doubt that the SDQ-I is clearly the most validated self-concept measure for use with preadolescent children . . . In using the SDQ-I, researchers, clinicians, counselors, and others interested in the welfare of preadolescent children, can feel confident in the validity of interpretations based on responses to its multidimensionally-sensitive items" (p. 191).

Although not developed in the United States, a major body of research supports the use of the SDQ-I with young children. The entire instrument can be administered in less

than 20 minutes. Separate scales are available for reading, math, all school subjects, physical abilities, physical appearance, peer relations, parent relations, and global self-esteem. The academic scales ask children not only about their ability and achievement, but also their interest and enjoyment of (i.e., intrinsic motivation for) reading, math, and all school subjects. The parent relation scales reflect the child's perception of how much their parent likes them and spends time with them, as well as how they feel about their parents, and how well they get along together. The peer relations scale measures the child's perception of his/her own popularity and the ease with which he/she makes friends. The physical abilities scale reflects the child's assessment of his/her prowess in large muscle activities and sports. The physical appearance scale measures the student's estimation of his/her own attractiveness.

The SDQ-I has some negatively worded items that are not scored, but are included in the instrument in order to break any response sets that might occur. We recommend substituting items asking about problem behaviors. Problem behavior items would serve the dual purpose of breaking any response sets and of gathering information about the child's perception of behaviors that may interfere with learning. The following items address both internalizing and externalizing problem behaviors:

I worry about having someone to play with.

I worry that other kids might not like me.

I worry about tests.

I worry about finishing my work.

I worry about doing well in school.

I feel ashamed when I make mistakes in school.

I often feel lonely.

I feel sad a lot.

I get distracted easily.

It's hard for me to finish my work.

I get in trouble for fighting with other kids.

I often argue with other kids.

I feel angry when I have trouble learning something new.

It's hard for me to pay attention.

I get in trouble for talking and disturbing others.

The SDQ-I assesses the child's estimation of parental social support, though it does not assess perceptions of instrumental support, nor the student's relationship with the teacher. We recommend that selected items adapted from the Teacher As Social Context (TASC; Belmont et al. 1992) be piloted in the ECLS-K to address the student's estimation of social support. Because these items are worded simply, we do not think they will add much time to the administration of the measure.

We recommend that the following items drawn or adapted from the Teacher as Social Context Scale be added to the SDQ-I:

My teacher likes me.

My teacher really cares about me.

*My teacher listens to me.

*My teacher understands me.

My teacher spends time with me.

*My teacher helps me when I need him/her.

*My teacher keeps changing the rules on me.

My teacher listens to my ideas.

My teacher shows me how to solve problems for myself.

*My teacher gives me a lot of choices about my schoolwork.

My teacher is always getting on my case about schoolwork.

It seems like my teachers is always telling me what to do.

* Items have been adapted from the original to avoid the use of negatives or to combine items.

Age-appropriate measures of student goals are not available for early elementary school. The measures used in the studies cited in the research literature begin with fourth or fifth graders. The language used in these measures is complex and would be difficult for young children to process. Research on the ability of younger children to report personal goals is not available.

The child's ease or difficulty with the ECLS-K direct cognitive measures may affect the child's ratings on a measure of perceived competence. Therefore, it is recommended that the social-emotional measures be administered before the cognitive measures.

To summarize, we recommend adoption of the SDQ-I as the primary measure of children's self-concept in peer relations and all school subjects and their domain specific competence beliefs and intrinsic motivation for reading and math. We further recommend augmenting the SDQ-I with items drawn or adapted from the Teacher as Social Context Scale in order to assess students' sense of social support. Finally, we recommend replacing the negatively worded items that are contained on the SDQ-I (these items are used only to break the response set and are not scored) with items measuring child's self-report of internalizing and externalizing problems, such as loneliness, anxiety, difficulty attending, and poor self-control. Taken together, the self-reports of competence beliefs in academic and social areas, perceived support from teachers, and externalizing and internalizing problems should help to explain differences in school outcomes (i.e., achievement and social behavior) beyond that explained by initial ability.

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No.	Title	NCES contact
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Beginning Postsecondary Students (BPS) Longitudinal Study		
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98–15	Development of a Prototype System for Accessing Linked NCES Data	Steven Kaufman
1999–15	Projected Postsecondary Outcomes of 1992 High School Graduates	Aurora D'Amico
Common Core of Data (CCD)		
95–12	Rural Education Data User's Guide	Samuel Peng
96–19	Assessment and Analysis of School-Level Expenditures	William J. Fowler, Jr.
97–15	Customer Service Survey: Common Core of Data Coordinators	Lee Hoffman
97–43	Measuring Inflation in Public School Costs	William J. Fowler, Jr.
98–15	Development of a Prototype System for Accessing Linked NCES Data	Steven Kaufman
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2000–13	Non-professional Staff in the Schools and Staffing Survey (SASS) and Common Core of Data (CCD)	Kerry Gruber
Data Development		
2000–16a	Lifelong Learning NCES Task Force: Final Report Volume I	Lisa Hudson
2000–16b	Lifelong Learning NCES Task Force: Final Report Volume II	Lisa Hudson
Decennial Census School District Project		
95–12	Rural Education Data User's Guide	Samuel Peng
96–04	Census Mapping Project/School District Data Book	Tai Phan
98–07	Decennial Census School District Project Planning Report	Tai Phan
Early Childhood Longitudinal Study (ECLS)		
96–08	How Accurate are Teacher Judgments of Students' Academic Performance?	Jerry West
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HS Transcript Studies

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97–33	Adult Literacy: An International Perspective	Marilyn Binkley

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No.	Title	NCES contact
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95–07	National Education Longitudinal Study of 1988: Conducting Trend Analyses HS&B and NELS:88 Sophomore Cohort Dropouts	Jeffrey Owings
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1999–15	Projected Postsecondary Outcomes of 1992 High School Graduates	Aurora D'Amico

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96–21	1993 National Household Education Survey (NHES:93) Questionnaires: Screener, School Readiness, and School Safety and Discipline	Kathryn Chandler
96–22	1995 National Household Education Survey (NHES:95) Questionnaires: Screener, Early Childhood Program Participation, and Adult Education	Kathryn Chandler
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96–30	Comparison of Estimates from the 1995 National Household Education Survey (NHES:95)	Kathryn Chandler
97–02	Telephone Coverage Bias and Recorded Interviews in the 1993 National Household Education Survey (NHES:93)	Kathryn Chandler
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97–05	Unit and Item Response, Weighting, and Imputation Procedures in the 1993 National Household Education Survey (NHES:93)	Kathryn Chandler
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97–19	National Household Education Survey of 1995: Adult Education Course Coding Manual	Peter Stowe
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97–28	Comparison of Estimates in the 1996 National Household Education Survey	Kathryn Chandler
97–34	Comparison of Estimates from the 1993 National Household Education Survey	Kathryn Chandler

No.	Title	NCES contact
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97–38	Reinterview Results for the Parent and Youth Components of the 1996 National Household Education Survey	Kathryn Chandler
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National Postsecondary Student Aid Study (NPSAS)

96–17	National Postsecondary Student Aid Study: 1996 Field Test Methodology Report	Andrew G. Malizio
2000–17	National Postsecondary Student Aid Study:2000 Field Test Methodology Report	Andrew G. Malizio

National Study of Postsecondary Faculty (NSOPF)

97–26	Strategies for Improving Accuracy of Postsecondary Faculty Lists	Linda Zimbler
98–15	Development of a Prototype System for Accessing Linked NCES Data	Steven Kaufman
2000–01	1999 National Study of Postsecondary Faculty (NSOPF:99) Field Test Report	Linda Zimbler

Postsecondary Education Descriptive Analysis Reports (PEDAR)

2000–11	Financial Aid Profile of Graduate Students in Science and Engineering	Aurora D'Amico

Private School Universe Survey (PSS)

95–16	Intersurvey Consistency in NCES Private School Surveys	Steven Kaufman
95–17	Estimates of Expenditures for Private K–12 Schools	Stephen Broughman
96–16	Strategies for Collecting Finance Data from Private Schools	Stephen Broughman
96–26	Improving the Coverage of Private Elementary-Secondary Schools	Steven Kaufman
96–27	Intersurvey Consistency in NCES Private School Surveys for 1993–94	Steven Kaufman
97–07	The Determinants of Per-Pupil Expenditures in Private Elementary and Secondary Schools: An Exploratory Analysis	Stephen Broughman
97–22	Collection of Private School Finance Data: Development of a Questionnaire	Stephen Broughman
98–15	Development of a Prototype System for Accessing Linked NCES Data	Steven Kaufman
2000–04	Selected Papers on Education Surveys: Papers Presented at the 1998 and 1999 ASA and 1999 AAPOR Meetings	Dan Kasprzyk
2000–15	Feasibility Report: School-Level Finance Pretest, Private School Questionnaire	Stephen Broughman

Recent College Graduates (RCG)

98–15	Development of a Prototype System for Accessing Linked NCES Data	Steven Kaufman

Schools and Staffing Survey (SASS)

94–01	Schools and Staffing Survey (SASS) Papers Presented at Meetings of the American Statistical Association	Dan Kasprzyk
94–02	Generalized Variance Estimate for Schools and Staffing Survey (SASS)	Dan Kasprzyk
94–03	1991 Schools and Staffing Survey (SASS) Reinterview Response Variance Report	Dan Kasprzyk
94–04	The Accuracy of Teachers' Self-reports on their Postsecondary Education: Teacher Transcript Study, Schools and Staffing Survey	Dan Kasprzyk
94–06	Six Papers on Teachers from the 1990–91 Schools and Staffing Survey and Other Related Surveys	Dan Kasprzyk
95–01	Schools and Staffing Survey: 1994 Papers Presented at the 1994 Meeting of the American Statistical Association	Dan Kasprzyk
95–02	QED Estimates of the 1990–91 Schools and Staffing Survey: Deriving and Comparing QED School Estimates with CCD Estimates	Dan Kasprzyk
95–03	Schools and Staffing Survey: 1990–91 SASS Cross-Questionnaire Analysis	Dan Kasprzyk

No.	Title	NCES contact
95–08	CCD Adjustment to the 1990–91 SASS: A Comparison of Estimates	Dan Kasprzyk
95–09	The Results of the 1993 Teacher List Validation Study (TLVS)	Dan Kasprzyk
95–10	The Results of the 1991–92 Teacher Follow-up Survey (TFS) Reinterview and Extensive Reconciliation	Dan Kasprzyk
95–11	Measuring Instruction, Curriculum Content, and Instructional Resources: The Status of Recent Work	Sharon Bobbitt & John Ralph
95–12	Rural Education Data User's Guide	Samuel Peng
95–14	Empirical Evaluation of Social, Psychological, & Educational Construct Variables Used in NCES Surveys	Samuel Peng
95–15	Classroom Instructional Processes: A Review of Existing Measurement Approaches and Their Applicability for the Teacher Follow-up Survey	Sharon Bobbitt
95–16	Intersurvey Consistency in NCES Private School Surveys	Steven Kaufman
95–18	An Agenda for Research on Teachers and Schools: Revisiting NCES' Schools and Staffing Survey	Dan Kasprzyk
96–01	Methodological Issues in the Study of Teachers' Careers: Critical Features of a Truly Longitudinal Study	Dan Kasprzyk
96–02	Schools and Staffing Survey (SASS): 1995 Selected papers presented at the 1995 Meeting of the American Statistical Association	Dan Kasprzyk
96–05	Cognitive Research on the Teacher Listing Form for the Schools and Staffing Survey	Dan Kasprzyk
96–06	The Schools and Staffing Survey (SASS) for 1998–99: Design Recommendations to Inform Broad Education Policy	Dan Kasprzyk
96–07	Should SASS Measure Instructional Processes and Teacher Effectiveness?	Dan Kasprzyk
96–09	Making Data Relevant for Policy Discussions: Redesigning the School Administrator Questionnaire for the 1998–99 SASS	Dan Kasprzyk
96–10	1998–99 Schools and Staffing Survey: Issues Related to Survey Depth	Dan Kasprzyk
96–11	Towards an Organizational Database on America's Schools: A Proposal for the Future of SASS, with comments on School Reform, Governance, and Finance	Dan Kasprzyk
96–12	Predictors of Retention, Transfer, and Attrition of Special and General Education Teachers: Data from the 1989 Teacher Followup Survey	Dan Kasprzyk
96–15	Nested Structures: District-Level Data in the Schools and Staffing Survey	Dan Kasprzyk
96–23	Linking Student Data to SASS: Why, When, How	Dan Kasprzyk
96–24	National Assessments of Teacher Quality	Dan Kasprzyk
96–25	Measures of Inservice Professional Development: Suggested Items for the 1998–1999 Schools and Staffing Survey	Dan Kasprzyk
96–28	Student Learning, Teaching Quality, and Professional Development: Theoretical Linkages, Current Measurement, and Recommendations for Future Data Collection	Mary Rollefson
97–01	Selected Papers on Education Surveys: Papers Presented at the 1996 Meeting of the American Statistical Association	Dan Kasprzyk
97–07	The Determinants of Per-Pupil Expenditures in Private Elementary and Secondary Schools: An Exploratory Analysis	Stephen Broughman
97–09	Status of Data on Crime and Violence in Schools: Final Report	Lee Hoffman
97–10	Report of Cognitive Research on the Public and Private School Teacher Questionnaires for the Schools and Staffing Survey 1993–94 School Year	Dan Kasprzyk
97–11	International Comparisons of Inservice Professional Development	Dan Kasprzyk
97–12	Measuring School Reform: Recommendations for Future SASS Data Collection	Mary Rollefson
97–14	Optimal Choice of Periodicities for the Schools and Staffing Survey: Modeling and Analysis	Steven Kaufman
97–18	Improving the Mail Return Rates of SASS Surveys: A Review of the Literature	Steven Kaufman
97–22	Collection of Private School Finance Data: Development of a Questionnaire	Stephen Broughman
97–23	Further Cognitive Research on the Schools and Staffing Survey (SASS) Teacher Listing Form	Dan Kasprzyk
97–41	Selected Papers on the Schools and Staffing Survey: Papers Presented at the 1997 Meeting of the American Statistical Association	Steve Kaufman
97–42	Improving the Measurement of Staffing Resources at the School Level: The Development of Recommendations for NCES for the Schools and Staffing Survey (SASS)	Mary Rollefson
97–44	Development of a SASS 1993–94 School-Level Student Achievement Subfile: Using State Assessments and State NAEP, Feasibility Study	Michael Ross
98–01	Collection of Public School Expenditure Data: Development of a Questionnaire	Stephen Broughman
98–02	Response Variance in the 1993–94 Schools and Staffing Survey: A Reinterview Report	Steven Kaufman
98–04	Geographic Variations in Public Schools' Costs	William J. Fowler, Jr.

No.	Title	NCES contact
98–05	SASS Documentation: 1993–94 SASS Student Sampling Problems; Solutions for Determining the Numerators for the SASS Private School (3B) Second-Stage Factors	Steven Kaufman
98–08	The Redesign of the Schools and Staffing Survey for 1999–2000: A Position Paper	Dan Kasprzyk
98–12	A Bootstrap Variance Estimator for Systematic PPS Sampling	Steven Kaufman
98–13	Response Variance in the 1994–95 Teacher Follow-up Survey	Steven Kaufman
98–14	Variance Estimation of Imputed Survey Data	Steven Kaufman
98–15	Development of a Prototype System for Accessing Linked NCES Data	Steven Kaufman
98–16	A Feasibility Study of Longitudinal Design for Schools and Staffing Survey	Stephen Broughman
1999–02	Tracking Secondary Use of the Schools and Staffing Survey Data: Preliminary Results	Dan Kasprzyk
1999–04	Measuring Teacher Qualifications	Dan Kasprzyk
1999–07	Collection of Resource and Expenditure Data on the Schools and Staffing Survey	Stephen Broughman
1999–08	Measuring Classroom Instructional Processes: Using Survey and Case Study Fieldtest Results to Improve Item Construction	Dan Kasprzyk
1999–10	What Users Say About Schools and Staffing Survey Publications	Dan Kasprzyk
1999–12	1993–94 Schools and Staffing Survey: Data File User's Manual, Volume III: Public-Use Codebook	Kerry Gruber
1999–13	1993–94 Schools and Staffing Survey: Data File User's Manual, Volume IV: Bureau of Indian Affairs (BIA) Restricted-Use Codebook	Kerry Gruber
1999–14	1994–95 Teacher Followup Survey: Data File User's Manual, Restricted-Use Codebook	Kerry Gruber
1999–17	Secondary Use of the Schools and Staffing Survey Data	Susan Wiley
2000–04	Selected Papers on Education Surveys: Papers Presented at the 1998 and 1999 ASA and 1999 AAPOR Meetings	Dan Kasprzyk
2000–10	A Research Agenda for the 1999–2000 Schools and Staffing Survey	Dan Kasprzyk
2000–13	Non-professional Staff in the Schools and Staffing Survey (SASS) and Common Core of Data (CCD)	Kerry Gruber
2000–18	Feasibility Report: School-Level Finance Pretest, Public School District Questionnaire	Stephen Broughman

Third International Mathematics and Science Study (TIMSS)

No.	Title	NCES contact
2001–01	Cross-National Variation in Educational Preparation for Adulthood: From Early Adolescence to Young Adulthood	Elvira Hausken

Listing of NCES Working Papers by Subject

No.	Title	NCES contact

Adult education

No.	Title	NCES contact
96–14	The 1995 National Household Education Survey: Reinterview Results for the Adult Education Component	Steven Kaufman
96–20	1991 National Household Education Survey (NHES:91) Questionnaires: Screener, Early Childhood Education, and Adult Education	Kathryn Chandler
96–22	1995 National Household Education Survey (NHES:95) Questionnaires: Screener, Early Childhood Program Participation, and Adult Education	Kathryn Chandler
98–03	Adult Education in the 1990s: A Report on the 1991 National Household Education Survey	Peter Stowe
98–10	Adult Education Participation Decisions and Barriers: Review of Conceptual Frameworks and Empirical Studies	Peter Stowe
1999–11	Data Sources on Lifelong Learning Available from the National Center for Education Statistics	Lisa Hudson
2000–16a	Lifelong Learning NCES Task Force: Final Report Volume I	Lisa Hudson
2000–16b	Lifelong Learning NCES Task Force: Final Report Volume II	Lisa Hudson

Adult literacy—see Literacy of adults

American Indian – education

No.	Title	NCES contact
1999–13	1993–94 Schools and Staffing Survey: Data File User's Manual, Volume IV: Bureau of Indian Affairs (BIA) Restricted-Use Codebook	Kerry Gruber

Assessment/achievement

No.	Title	NCES contact
95–12	Rural Education Data User's Guide	Samuel Peng
95–13	Assessing Students with Disabilities and Limited English Proficiency	James Houser
97–29	Can State Assessment Data be Used to Reduce State NAEP Sample Sizes?	Larry Ogle
97–30	ACT's NAEP Redesign Project: Assessment Design is the Key to Useful and Stable Assessment Results	Larry Ogle
97–31	NAEP Reconfigured: An Integrated Redesign of the National Assessment of Educational Progress	Larry Ogle
97–32	Innovative Solutions to Intractable Large Scale Assessment (Problem 2: Background Questions)	Larry Ogle
97–37	Optimal Rating Procedures and Methodology for NAEP Open-ended Items	Larry Ogle
97–44	Development of a SASS 1993–94 School-Level Student Achievement Subfile: Using State Assessments and State NAEP, Feasibility Study	Michael Ross
98–09	High School Curriculum Structure: Effects on Coursetaking and Achievement in Mathematics for High School Graduates—An Examination of Data from the National Education Longitudinal Study of 1988	Jeffrey Owings

Beginning students in postsecondary education

No.	Title	NCES contact
98–11	Beginning Postsecondary Students Longitudinal Study First Follow-up (BPS:96–98) Field Test Report	Aurora D'Amico

Civic participation

No.	Title	NCES contact
97–25	1996 National Household Education Survey (NHES:96) Questionnaires: Screener/Household and Library, Parent and Family Involvement in Education and Civic Involvement, Youth Civic Involvement, and Adult Civic Involvement	Kathryn Chandler

Climate of schools

No.	Title	NCES contact
95–14	Empirical Evaluation of Social, Psychological, & Educational Construct Variables Used in NCES Surveys	Samuel Peng

Cost of education indices

No.	Title	NCES contact
94–05	Cost-of-Education Differentials Across the States	William J. Fowler, Jr.

No.	Title	NCES contact

Course-taking

95–12	Rural Education Data User's Guide	Samuel Peng
98–09	High School Curriculum Structure: Effects on Coursetaking and Achievement in Mathematics for High School Graduates—An Examination of Data from the National Education Longitudinal Study of 1988	Jeffrey Owings
1999–05	Procedures Guide for Transcript Studies	Dawn Nelson
1999–06	1998 Revision of the Secondary School Taxonomy	Dawn Nelson

Crime

97–09	Status of Data on Crime and Violence in Schools: Final Report	Lee Hoffman

Curriculum

95–11	Measuring Instruction, Curriculum Content, and Instructional Resources: The Status of Recent Work	Sharon Bobbitt & John Ralph
98–09	High School Curriculum Structure: Effects on Coursetaking and Achievement in Mathematics for High School Graduates—An Examination of Data from the National Education Longitudinal Study of 1988	Jeffrey Owings

Customer service

1999–10	What Users Say About Schools and Staffing Survey Publications	Dan Kasprzyk
2000–02	Coordinating NCES Surveys: Options, Issues, Challenges, and Next Steps	Valena Plisko
2000–04	Selected Papers on Education Surveys: Papers Presented at the 1998 and 1999 ASA and 1999 AAPOR Meetings	Dan Kasprzyk

Data quality

97–13	Improving Data Quality in NCES: Database-to-Report Process	Susan Ahmed

Data warehouse

2000–04	Selected Papers on Education Surveys: Papers Presented at the 1998 and 1999 ASA and 1999 AAPOR Meetings	Dan Kasprzyk

Design effects

2000–03	Strengths and Limitations of Using SUDAAN, Stata, and WesVarPC for Computing Variances from NCES Data Sets	Ralph Lee

Dropout rates, high school

95–07	National Education Longitudinal Study of 1988: Conducting Trend Analyses HS&B and NELS:88 Sophomore Cohort Dropouts	Jeffrey Owings

Early childhood education

96–20	1991 National Household Education Survey (NHES:91) Questionnaires: Screener, Early Childhood Education, and Adult Education	Kathryn Chandler
96–22	1995 National Household Education Survey (NHES:95) Questionnaires: Screener, Early Childhood Program Participation, and Adult Education	Kathryn Chandler
97–24	Formulating a Design for the ECLS: A Review of Longitudinal Studies	Jerry West
97–36	Measuring the Quality of Program Environments in Head Start and Other Early Childhood Programs: A Review and Recommendations for Future Research	Jerry West
1999–01	A Birth Cohort Study: Conceptual and Design Considerations and Rationale	Jerry West
2001–02	Measuring Father Involvement in Young Children's Lives: Recommendations for a Fatherhood Module for the ECLS-B	Jerry West
2001-03	Measures of Socio-Emotional Development in Middle School	Elvira Hausken

Educational attainment

98–11	Beginning Postsecondary Students Longitudinal Study First Follow-up (BPS:96–98) Field Test Report	Aurora D'Amico

Educational research

2000–02	Coordinating NCES Surveys: Options, Issues, Challenges, and Next Steps	Valena Plisko

No.	Title	NCES contact

Employment

96–03	National Education Longitudinal Study of 1988 (NELS:88) Research Framework and Issues	Jeffrey Owings
98–11	Beginning Postsecondary Students Longitudinal Study First Follow-up (BPS:96–98) Field Test Report	Aurora D'Amico
2000–16a	Lifelong Learning NCES Task Force: Final Report Volume I	Lisa Hudson
2000–16b	Lifelong Learning NCES Task Force: Final Report Volume II	Lisa Hudson
2001–01	Cross-National Variation in Educational Preparation for Adulthood: From Early Adolescence to Young Adulthood	Elvira Hausken

Engineering

2000–11	Financial Aid Profile of Graduate Students in Science and Engineering	Aurora D'Amico

Faculty – higher education

97–26	Strategies for Improving Accuracy of Postsecondary Faculty Lists	Linda Zimbler
2000–01	1999 National Study of Postsecondary Faculty (NSOPF:99) Field Test Report	Linda Zimbler

Fathers – role in education

2001–02	Measuring Father Involvement in Young Children's Lives: Recommendations for a Fatherhood Module for the ECLS-B	Jerry West

Finance – elementary and secondary schools

94–05	Cost-of-Education Differentials Across the States	William J. Fowler, Jr.
96–19	Assessment and Analysis of School-Level Expenditures	William J. Fowler, Jr.
98–01	Collection of Public School Expenditure Data: Development of a Questionnaire	Stephen Broughman
1999–07	Collection of Resource and Expenditure Data on the Schools and Staffing Survey	Stephen Broughman
1999–16	Measuring Resources in Education: From Accounting to the Resource Cost Model Approach	William J. Fowler, Jr.
2000–18	Feasibility Report: School-Level Finance Pretest, Public School District Questionnaire	Stephen Broughman

Finance – postsecondary

97–27	Pilot Test of IPEDS Finance Survey	Peter Stowe
2000–14	IPEDS Finance Data Comparisons Under the 1997 Financial Accounting Standards for Private, Not-for-Profit Institutes: A Concept Paper	Peter Stowe

Finance – private schools

95–17	Estimates of Expenditures for Private K–12 Schools	Stephen Broughman
96–16	Strategies for Collecting Finance Data from Private Schools	Stephen Broughman
97–07	The Determinants of Per-Pupil Expenditures in Private Elementary and Secondary Schools: An Exploratory Analysis	Stephen Broughman
97–22	Collection of Private School Finance Data: Development of a Questionnaire	Stephen Broughman
1999–07	Collection of Resource and Expenditure Data on the Schools and Staffing Survey	Stephen Broughman
2000–15	Feasibility Report: School-Level Finance Pretest, Private School Questionnaire	Stephen Broughman

Geography

98–04	Geographic Variations in Public Schools' Costs	William J. Fowler, Jr.

Graduate students

2000–11	Financial Aid Profile of Graduate Students in Science and Engineering	Aurora D'Amico

Imputation

2000–04	Selected Papers on Education Surveys: Papers Presented at the 1998 and 1999 ASA and 1999 AAPOR Meetings	Dan Kasprzyk

Inflation

97–43	Measuring Inflation in Public School Costs	William J. Fowler, Jr.

Institution data

2000–01	1999 National Study of Postsecondary Faculty (NSOPF:99) Field Test Report	Linda Zimbler

No.	Title	NCES contact

Instructional resources and practices
| 95–11 | Measuring Instruction, Curriculum Content, and Instructional Resources: The Status of Recent Work | Sharon Bobbitt & John Ralph |
| 1999–08 | Measuring Classroom Instructional Processes: Using Survey and Case Study Field Test Results to Improve Item Construction | Dan Kasprzyk |

International comparisons
97–11	International Comparisons of Inservice Professional Development	Dan Kasprzyk
97–16	International Education Expenditure Comparability Study: Final Report, Volume I	Shelley Burns
97–17	International Education Expenditure Comparability Study: Final Report, Volume II, Quantitative Analysis of Expenditure Comparability	Shelley Burns
2001–01	Cross-National Variation in Educational Preparation for Adulthood: From Early Adolescence to Young Adulthood	Elvira Hausken

Libraries
| 94–07 | Data Comparability and Public Policy: New Interest in Public Library Data Papers Presented at Meetings of the American Statistical Association | Carrol Kindel |
| 97–25 | 1996 National Household Education Survey (NHES:96) Questionnaires: Screener/Household and Library, Parent and Family Involvement in Education and Civic Involvement, Youth Civic Involvement, and Adult Civic Involvement | Kathryn Chandler |

Limited English Proficiency
| 95–13 | Assessing Students with Disabilities and Limited English Proficiency | James Houser |

Literacy of adults
98–17	Developing the National Assessment of Adult Literacy: Recommendations from Stakeholders	Sheida White
1999–09a	1992 National Adult Literacy Survey: An Overview	Alex Sedlacek
1999–09b	1992 National Adult Literacy Survey: Sample Design	Alex Sedlacek
1999–09c	1992 National Adult Literacy Survey: Weighting and Population Estimates	Alex Sedlacek
1999–09d	1992 National Adult Literacy Survey: Development of the Survey Instruments	Alex Sedlacek
1999–09e	1992 National Adult Literacy Survey: Scaling and Proficiency Estimates	Alex Sedlacek
1999–09f	1992 National Adult Literacy Survey: Interpreting the Adult Literacy Scales and Literacy Levels	Alex Sedlacek
1999–09g	1992 National Adult Literacy Survey: Literacy Levels and the Response Probability Convention	Alex Sedlacek
1999–11	Data Sources on Lifelong Learning Available from the National Center for Education Statistics	Lisa Hudson
2000–05	Secondary Statistical Modeling With the National Assessment of Adult Literacy: Implications for the Design of the Background Questionnaire	Sheida White
2000–06	Using Telephone and Mail Surveys as a Supplement or Alternative to Door-to-Door Surveys in the Assessment of Adult Literacy	Sheida White
2000–07	"How Much Literacy is Enough?" Issues in Defining and Reporting Performance Standards for the National Assessment of Adult Literacy	Sheida White
2000–08	Evaluation of the 1992 NALS Background Survey Questionnaire: An Analysis of Uses with Recommendations for Revisions	Sheida White
2000–09	Demographic Changes and Literacy Development in a Decade	Sheida White

Literacy of adults – international
| 97–33 | Adult Literacy: An International Perspective | Marilyn Binkley |

Mathematics
| 98–09 | High School Curriculum Structure: Effects on Coursetaking and Achievement in Mathematics for High School Graduates—An Examination of Data from the National Education Longitudinal Study of 1988 | Jeffrey Owings |
| 1999–08 | Measuring Classroom Instructional Processes: Using Survey and Case Study Field Test Results to Improve Item Construction | Dan Kasprzyk |

No.	Title	NCES contact

Parental involvement in education

96–03	National Education Longitudinal Study of 1988 (NELS:88) Research Framework and Issues	Jeffrey Owings
97–25	1996 National Household Education Survey (NHES:96) Questionnaires: Screener/Household and Library, Parent and Family Involvement in Education and Civic Involvement, Youth Civic Involvement, and Adult Civic Involvement	Kathryn Chandler
1999–01	A Birth Cohort Study: Conceptual and Design Considerations and Rationale	Jerry West

Participation rates

98–10	Adult Education Participation Decisions and Barriers: Review of Conceptual Frameworks and Empirical Studies	Peter Stowe

Postsecondary education

1999–11	Data Sources on Lifelong Learning Available from the National Center for Education Statistics	Lisa Hudson
2000–16a	Lifelong Learning NCES Task Force: Final Report Volume I	Lisa Hudson
2000–16b	Lifelong Learning NCES Task Force: Final Report Volume II	Lisa Hudson

Postsecondary education – persistence and attainment

98–11	Beginning Postsecondary Students Longitudinal Study First Follow-up (BPS:96–98) Field Test Report	Aurora D'Amico
1999–15	Projected Postsecondary Outcomes of 1992 High School Graduates	Aurora D'Amico

Postsecondary education – staff

97–26	Strategies for Improving Accuracy of Postsecondary Faculty Lists	Linda Zimbler
2000–01	1999 National Study of Postsecondary Faculty (NSOPF:99) Field Test Report	Linda Zimbler

Principals

2000–10	A Research Agenda for the 1999–2000 Schools and Staffing Survey	Dan Kasprzyk

Private schools

96–16	Strategies for Collecting Finance Data from Private Schools	Stephen Broughman
97–07	The Determinants of Per-Pupil Expenditures in Private Elementary and Secondary Schools: An Exploratory Analysis	Stephen Broughman
97–22	Collection of Private School Finance Data: Development of a Questionnaire	Stephen Broughman
2000–13	Non-professional Staff in the Schools and Staffing Survey (SASS) and Common Core of Data (CCD)	Kerry Gruber
2000–15	Feasibility Report: School-Level Finance Pretest, Private School Questionnaire	Stephen Broughman

Projections of education statistics

1999–15	Projected Postsecondary Outcomes of 1992 High School Graduates	Aurora D'Amico

Public school finance

1999–16	Measuring Resources in Education: From Accounting to the Resource Cost Model Approach	William J. Fowler, Jr.
2000–18	Feasibility Report: School-Level Finance Pretest, Public School District Questionnaire	Stephen Broughman

Public schools

97–43	Measuring Inflation in Public School Costs	William J. Fowler, Jr.
98–01	Collection of Public School Expenditure Data: Development of a Questionnaire	Stephen Broughman
98–04	Geographic Variations in Public Schools' Costs	William J. Fowler, Jr.
1999–02	Tracking Secondary Use of the Schools and Staffing Survey Data: Preliminary Results	Dan Kasprzyk
2000–12	Coverage Evaluation of the 1994–95 Public Elementary/Secondary School Universe Survey	Beth Young
2000–13	Non-professional Staff in the Schools and Staffing Survey (SASS) and Common Core of Data (CCD)	Kerry Gruber

No.	Title	NCES contact

Public schools – secondary
98–09   High School Curriculum Structure: Effects on Coursetaking and Achievement in Mathematics for High School Graduates—An Examination of Data from the National Education Longitudinal Study of 1988   Jeffrey Owings

Reform, educational
96–03   National Education Longitudinal Study of 1988 (NELS:88) Research Framework and Issues   Jeffrey Owings

Response rates
98–02   Response Variance in the 1993–94 Schools and Staffing Survey: A Reinterview Report   Steven Kaufman

School districts
2000–10   A Research Agenda for the 1999–2000 Schools and Staffing Survey   Dan Kasprzyk

School districts, public
98–07   Decennial Census School District Project Planning Report   Tai Phan
1999–03   Evaluation of the 1996–97 Nonfiscal Common Core of Data Surveys Data Collection, Processing, and Editing Cycle   Beth Young

School districts, public – demographics of
96–04   Census Mapping Project/School District Data Book   Tai Phan

Schools
97–42   Improving the Measurement of Staffing Resources at the School Level: The Development of Recommendations for NCES for the Schools and Staffing Survey (SASS)   Mary Rollefson
98–08   The Redesign of the Schools and Staffing Survey for 1999–2000: A Position Paper   Dan Kasprzyk
1999–03   Evaluation of the 1996–97 Nonfiscal Common Core of Data Surveys Data Collection, Processing, and Editing Cycle   Beth Young
2000–10   A Research Agenda for the 1999–2000 Schools and Staffing Survey   Dan Kasprzyk

Schools – safety and discipline
97–09   Status of Data on Crime and Violence in Schools: Final Report   Lee Hoffman

Science
2000–11   Financial Aid Profile of Graduate Students in Science and Engineering   Aurora D'Amico

Software evaluation
2000–03   Strengths and Limitations of Using SUDAAN, Stata, and WesVarPC for Computing Variances from NCES Data Sets   Ralph Lee

Staff
97–42   Improving the Measurement of Staffing Resources at the School Level: The Development of Recommendations for NCES for the Schools and Staffing Survey (SASS)   Mary Rollefson
98–08   The Redesign of the Schools and Staffing Survey for 1999–2000: A Position Paper   Dan Kasprzyk

Staff – higher education institutions
97–26   Strategies for Improving Accuracy of Postsecondary Faculty Lists   Linda Zimbler

Staff – nonprofessional
2000–13   Non-professional Staff in the Schools and Staffing Survey (SASS) and Common Core of Data (CCD)   Kerry Gruber

State
1999–03   Evaluation of the 1996–97 Nonfiscal Common Core of Data Surveys Data Collection, Processing, and Editing Cycle   Beth Young

No.	Title	NCES contact

Statistical methodology
97–21   Statistics for Policymakers or Everything You Wanted to Know About Statistics But   Susan Ahmed
             Thought You Could Never Understand

Students with disabilities
95–13   Assessing Students with Disabilities and Limited English Proficiency   James Houser

Survey methodology
96–17   National Postsecondary Student Aid Study: 1996 Field Test Methodology Report   Andrew G. Malizio
97–15   Customer Service Survey: Common Core of Data Coordinators   Lee Hoffman
97–35   Design, Data Collection, Interview Administration Time, and Data Editing in the 1996   Kathryn Chandler
             National Household Education Survey
98–06   National Education Longitudinal Study of 1988 (NELS:88) Base Year through Second   Ralph Lee
             Follow-Up: Final Methodology Report
98–11   Beginning Postsecondary Students Longitudinal Study First Follow-up (BPS:96–98) Field   Aurora D'Amico
             Test Report
98–16   A Feasibility Study of Longitudinal Design for Schools and Staffing Survey   Stephen Broughman
1999–07   Collection of Resource and Expenditure Data on the Schools and Staffing Survey   Stephen Broughman
1999–17   Secondary Use of the Schools and Staffing Survey Data   Susan Wiley
2000–01   1999 National Study of Postsecondary Faculty (NSOPF:99) Field Test Report   Linda Zimbler
2000–02   Coordinating NCES Surveys: Options, Issues, Challenges, and Next Steps   Valena Plisko
2000–04   Selected Papers on Education Surveys: Papers Presented at the 1998 and 1999 ASA and   Dan Kasprzyk
             1999 AAPOR Meetings
2000–12   Coverage Evaluation of the 1994–95 Public Elementary/Secondary School Universe   Beth Young
             Survey
2000–17   National Postsecondary Student Aid Study:2000 Field Test Methodology Report   Andrew G. Malizio

Teachers
98–13   Response Variance in the 1994–95 Teacher Follow-up Survey   Steven Kaufman
1999–14   1994–95 Teacher Followup Survey: Data File User's Manual, Restricted-Use Codebook   Kerry Gruber
2000–10   A Research Agenda for the 1999–2000 Schools and Staffing Survey   Dan Kasprzyk

Teachers – instructional practices of
98–08   The Redesign of the Schools and Staffing Survey for 1999–2000: A Position Paper   Dan Kasprzyk

Teachers – opinions regarding safety
98–08   The Redesign of the Schools and Staffing Survey for 1999–2000: A Position Paper   Dan Kasprzyk

Teachers – performance evaluations
1999–04   Measuring Teacher Qualifications   Dan Kasprzyk

Teachers – qualifications of
1999–04   Measuring Teacher Qualifications   Dan Kasprzyk

Teachers – salaries of
94–05   Cost-of-Education Differentials Across the States   William J. Fowler, Jr.

Training
2000–16a   Lifelong Learning NCES Task Force: Final Report Volume I   Lisa Hudson
2000–16b   Lifelong Learning NCES Task Force: Final Report Volume II   Lisa Hudson

Variance estimation
2000–03   Strengths and Limitations of Using SUDAAN, Stata, and WesVarPC for Computing   Ralph Lee
             Variances from NCES Data Sets
2000–04   Selected Papers on Education Surveys: Papers Presented at the 1998 and 1999 ASA and   Dan Kasprzyk
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Violence
97–09   Status of Data on Crime and Violence in Schools: Final Report   Lee Hoffman

No.	Title	NCES contact

Vocational education

95–12	Rural Education Data User's Guide	Samuel Peng
1999–05	Procedures Guide for Transcript Studies	Dawn Nelson
1999–06	1998 Revision of the Secondary School Taxonomy	Dawn Nelson