

Social Policy Report

Giving Child and Youth Development Knowledge Away

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Emotions Matter: Making the Case for the Role of Young Children's Emotional Development for Early School Readiness C. Cybele Raver

Summary

This Social Policy Report considers the importance of young children's emotional development for their school readiness, suggesting that social scientists can provide policy makers with concrete ways to conceptualize, measure and target young children's emotional adjustment in early educational and child care settings. This Report then reviews a recent and persuasive body of rigorous research, to determine whether children's emotional adjustment can be significantly affected by interventions implemented in the preschool and early school years.

Results of this review suggest that family, early educational, and clinical interventions offer policy makers a wide array of choices in ways that they can make sound investments in young children's emotional development and school readiness. This research suggests that, while young children's emotional and behavioral problems are costly to their chances of school success, these problems are identifiable early, are amenable to change, and can be reduced over time.

What kinds of investments should policy makers be advised to make, at what point in young children's development, and in what settings? While modest investments in low-cost interventions initially may seem appealing, this report suggests that there are few bargains to be had when investing in young children's emotional adjustment. With this caveat in mind, the findings of this report suggest that policy makers should broaden early elementary educational mandates for school readiness to include children's emotional and behavioral adjustment as key programmatic goals. Policy makers should consider targeting young children's emotional adjustment prior to school entry, in diverse settings such as Head Start, child care settings, as well as in the first few years of school. Finally, young children's emotional adjustment can serve as an important

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From the Editor

This issue addresses the importance of young children's emotional development for school readiness.

There is currently at the national level a great deal of concern for literacy and learning to read. Certainly literacy could not be more important. Children frequently fail in school because they fall behind in acquisition of basic skills, early in their school careers.

This report, however, highlights the interrelatedness of development, particularly early in life. Young children cannot learn to read if they have emotional and behavioral problems that distract them from reading lessons; such problems interfere with the acquisition of basic early skills. Two sidebars offer additional information on early emotional development and the development of self-regulation.

Emotional development and behavioral self-regulation are as important to early development as learning to read. In order to promote literacy, early educational programs have to attend to the whole child, attending also to the promotion of emotional development and health. Head Start was originally founded (by distinguished developmental psychologists such as Edward Zigler, Shepherd White, and Bettye Caldwell) with exactly this view of the whole child. And social and emotional development are part of the performance standards for early Head Start and Head Start. In the national evaluation of Head Start, social and emotional development were listed by staff as being most important. Now as conversations begin about moving Head Start to the Education Department, it is critical that we maintain this view that attends to emotional as well as cognitive development. This article presents the research justification for doing that.

The article also summarizes literature demonstrating that a variety of interventions can help young children who have already developed emotional and behavioral adjustment problems become more prepared for school. We know what to do and how to do it—in regard to promoting early development and preparing children for school; it is just a matter of basing our decisions on what we know about early child development.

Hopefully, this issue of the *Social Policy Report* will contribute to making that happen.

Lonnie R. Sherrod, Editor

Emotions Matter: Making the Case for the Role of Young Children’s Emotional Development for Early School Readiness

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Recently, policy makers, researchers and educators have intensified their interest in supporting young children’s readiness to learn as they enter school (National Education Goals Panel, 1998). Surveys of teachers suggest there is justifiable cause for concern. For example, in one recent, nationally representative survey of over 3,000 teachers, 30% of the Kindergarten teachers reported that at least half of the children in their class lacked academic skills, had difficulty following directions, and working as part of a group, and 20% reported that at least half the class had problems with social skills (Rimm-Kaufman, Pianta & Cox, 2000). The portrait that emerges from these statistics is one where many children are not sufficiently ready to make the transition to Kindergarten. Exposed to a wide range of psychosocial stressors, children in poor neighborhoods are at greater risk for developing emotional and social difficulties (Dodge, Pettit & Bates, 1994; Brooks-Gunn, Duncan, & Aber, 1997). Schools in low-income communities are therefore likely to be called upon to meet the needs of a greater number of young children with behavioral problems within Kindergarten classrooms (Conduct Problems Prevention Research Group, 1999; Rimm-Kaufman, et al., 2000). Conversely, emotional skills among low-income children may serve an important protective function, whereby children who are able to effectively handle their emotions and behavior despite exposure to multiple stressors are more likely to do better, academically, than their peers (Raver & Zigler, 1997). In this light, what can developmental psychologists tell policy-makers about supporting young children’s school readiness?

From the last two decades of research, it is unequivocally clear that children’s emotional and behavioral adjustment is important for their chances of early school success. Certainly, cognitive maturity plays a central role in children’s academic performance. However, psychologists’ and educators’ emphasis on cognition and on children’s academic

preparedness continues to overshadow the importance of children’s social and emotional development for early school readiness (Aber, Jones, & Cohen, 2000; Hyson, 1994; Fantuzzo, et al., 1999; Raver & Zigler, 1997). This message is not new—what is new, however, is the emergence of a powerfully persuasive body of research on ways to support young children’s emotional, behavioral and academic adjustment just as policy interest in early school readiness is “heating up.” With this window of opportunity in mind, the following paper will make three, inter-related points:

1. Young children’s emotional adjustment matters.

Children who are emotionally well-adjusted have a significantly greater chance of early school success while children who experience serious emotional difficulty face grave risks of early school difficulty.

2. Recent advances in developmental and clinical research suggest that children vary in their levels of emotional competence and relative risk for developing behavioral and emotional difficulties. Developmental research offers several frameworks for understanding the child, family, classroom and environmental factors that are associated with children’s varying levels of skill versus difficulty, giving policy makers clear “sign posts” for multiple avenues for intervention.

3. Research on family, early educational, and clinical interventions offers policy makers a wide array of choices in ways that they may want to invest in young children’s emotional development and school readiness. Modest investments in low-cost interventions initially may seem appealing, but the following review suggests that there are few bargains to be had when investing in young children’s emotional adjustment. Specifically, some children with serious emotional problems live in extremely vulnerable families, where parents struggle with a host of economic, psychological, and social difficulties. Policies aimed at young children’s emotional adjustment and school readiness may need to be cohesive and comprehensive if we

expect to have a measurable, positive impact on increasing children’s chances for school success. In other words, while short-term and relatively low-cost solutions supporting children’s emotional competence are available, they are unlikely to work for children who face the greatest emotional hurdles. While young children’s emotional problems are costly, results from some of the interventions reviewed suggest that these problems are identifiable early, are amenable to change, and can be reduced over time.

Children who are emotionally well-adjusted have a significantly greater chance of early school success while children who experience serious emotional difficulty face an increased risk of early school difficulty.

The following paper briefly reviews relevant research from developmental, clinical, and educational psychology, evaluating recent empirical evidence on which these assertions are made. First, longitudinal research linking children's social and emotional adjustment to their academic achievement is briefly considered, highlighting ways that emotions matter to children's school success. Second, this paper presents a brief overview of children's emotional adjustment from developmental and clinical frameworks, so that policy makers understand the individual, family and classroom processes that might be targeted in order for policy interventions to be effective. Third, the bulk of this paper then examines a range of interventions in order to address the question of which type of program is most effective in fostering children's emotional adjustment. When is a good time to intervene, for whom, and in what settings? While it would appear to make the most sense to get children "ready" for school by targeting the preschool years, researchers and clinicians have not generally focused on treating emotional problems in children younger than school-age, until relatively recently (Campbell, Shaw, & Gilliom, 2000). Therefore, in this review, programs aimed at increasing children's "school readiness" by improving their emotional adjustment is broadly construed to span two developmental periods—1) when children enter school, in Kindergarten and 1st grade, and 2) prior to school entry.

This review is also broadly framed with respect to its scope: It focuses both on universal interventions targeting all children regardless of income and on programs tailored to assist low-income children, given that family- and neighborhood-level economic disadvantage increase children's risk for behavioral and academic difficulty (Bolger, Patterson, Thompson & Kupersmidt, 1995; Duncan, Yeung, Brooks-Gunn & Smith, 1998). This review examines a "continuum" of service delivery options, considering interventions that target children at low, moderate and high risk with programs of correspondingly low, moderate and high intensity (Webster-Stratton & Taylor, 2001). In order to evaluate the merit of various types of intervention, this review focuses primarily on experimental evaluation research using randomized design; exceptions (where non-experimental evaluation studies are also considered) are clearly noted. Where appropriate, this paper also provides standardized estimates of the size of the impact, or effect for the interventions that are described¹. (Unfortunately, sufficient data were not available to calculate these estimates in many of the studies reviewed). Finally, the paper concludes with a set of concrete policy recommendations.

I: Children's Emotional Adjustment Predicts Their Early School Success

Over the last twenty years, a series of studies has clearly demonstrated that children's emotional and social skills are linked to their early academic standing (Wentzel & Asher, 1995). Children who have difficulty paying attention, following directions, getting along with others, and controlling negative emotions of anger and distress, do less well in school (Arnold et al., 1999; McLelland, Morrison & Holmes, 2000). More recently, evidence from longitudinal studies suggests that this link may be causal: For many children, academic achievement in their first few years of schooling appears to be built on a firm foundation of children's emotional and social skills (Alexander, Entwistle, & Dauber, 1993; Ladd, Kochendorfer & Coleman, 1997; O'Neil, Welsh, Parke, Wang & Strand, 1997).

Specifically, emerging research on early schooling suggests that the relationships that children build with peers and teachers are a) based on children's ability to regulate emotions in prosocial versus antisocial ways and that b) those relationships then serve as a "source of provisions" that either help or hurt children's chances of doing well, academically, in school (Ladd, Birch & Buhs, 1999, p.1375). Psychologists find that children who act in antisocial ways are less likely to be accepted by classmates and teachers (Kupersmidt & Coie, 1990; Shores & Wehby, 1999), participate less in classrooms and do more poorly in school than their more emotionally positive, prosocial counterparts, net of the effects of children's pre-existing cognitive skills and family backgrounds (Ladd et al., 1999). One caveat is that children's early academic skills and emotional adjustment may be bidirectionally related, where young children who struggle with early reading and learning difficulties may grow increasingly frustrated and more disruptive (Arnold et al., 1999; Hinshaw, 1992). Clearly our understanding of the causal and reciprocal influences of children's cognitive, language, and emotional competences on later academic achievement would be greatly benefited by additional research. With this caveat in mind, the bulk of longitudinal evidence for the importance of social and emotional adjustment for children's success in early academic contexts is convincing and clear.

How large a difference does children's emotional adjustment make? Children's emotional and behavioral difficulty with peers and teachers is not just a "feel good" issue: Children's aggressive, disruptive behavior has serious, long-term costs, both to the children themselves, and to their communities. Specifically, twenty years of research has now clearly established that aggressive young children who are

Children who are disliked by teachers and peers grow to like school less, feeling less love for learning and avoid school more often.

rejected by their classmates in their first years of schooling are at grave risk for lower academic achievement, greater likelihood of grade retention (being “held back”), greater likelihood of dropping out of school, and greater risk of delinquency and of committing criminal juvenile offenses in adolescence (Jimerson, Egeland, Sroufe & Carlson, 2000; Kupersmidt & Coie, 1990; Miller-Johnson et al., 1999; Vitaro, Laroque, Janosz & Tremblay, 2001).

Children with emotional difficulties are likely to “lose out” academically, in a number of ways. First, disruptive children are tough to teach: As early as preschool, teachers provide disruptive children with less positive feedback, so that disruptive children spend less time on task and receive less instruction (Arnold, et al., 1999; McEvoy & Welker, 2000; Shores & Wehby, 1999). Negative and conflictual relationships with one’s Kindergarten teacher have been found to forecast children’s later academic difficulties through early elementary school (Hamre & Pianta, 2001). Second, emotionally negative, angry children may lose opportunities to learn from their classmates as children gather to work on projects together, help each other with homework, and provide each other with support and encouragement in the classroom (Berndt & Keefe, 1995; Ladd et al., 1999). Third, children who are disliked by teachers and classmates grow to like school less, feeling less love for learning, and avoid school more often, with lower school attendance (Berndt & Keefe, 1995; Birch & Ladd, 1997; Murray & Greenberg, 2000). The costs of being socially rejected or withdrawn with peers and teachers may be particularly great for low-income children, increasing their risk of later school difficulty (Coolahan, Fantuzzo & Mendez, 2000).

Given this compelling evidence that children’s emotional adjustment plays an important part in predicting their likelihood of school success, the next question is then: How do we aid children to develop emotional competence and avoid emotional difficulties, so that they come to school ready to learn? Two different approaches to early emotional adjustment are briefly outlined in the next section, so that policy makers can strengthen their understanding of the multiple potential avenues for intervention when targeting children’s school readiness.

II: Frameworks for Understanding Young Children’s Emotional Competence and Difficulty

Emotional competence: One framework used by many developmental psychologists suggests that children have a set of “emotional competencies” in ways that they think about and handle their own and others’ emotions (Saarni, 1990). Children’s ability to recognize and label different emotions provides them with powerful social tools: Using words, children can “talk through” rather than act out their feelings of anger, sadness, or frustration (Denham & Burton, 1996). Some children have more difficulty than others in correctly

identifying both their own and others’ emotions and in thinking of appropriate solutions to common social problems (e.g. resolving conflict with a peer) (Denham, 1998; Garner, Jones, Gaddy & Rennie, 1997). These children persistently misinterpret social situations (perceiving other children’s motives as hostile rather than benign), and they then respond

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aggressively, eventually becoming disliked and rejected by their peers (Dodge & Feldman, 1990).

In a related avenue of research on children’s emotional competence, some investigators focus less on what children know about emotions and more on how children manage or regulate their negative emotions. On the basis of their ability to effectively manage their impulses and feelings, children arrive to formal classrooms with differing “behavioral styles” that have been characterized as more “prosocial” (where children engage in social conversation, cooperative play, and sharing), or “antisocial” in nature (where children hit, argue, and act in oppositional and defiant ways) (Eisenberg & Fabes, 1992; Rubin, Coplan, Fox & Calkins, 1995). Children who have trouble regulating their emotions and behavior may have an especially hard time accurately processing the details of an emotionally upsetting situation, as described earlier (Lemerise & Arsenio, 2000).

Children’s emotional styles are thought to be influenced by both children’s temperaments and by parents’ varying uses of warmth, control, and harshness in the home (Eisenberg & Fabes, 1992; Kopp, 1989; Patterson, Reid & Dishion, 1992; Thompson, 1994; Wakschlag & Hans, 1999). Specifically, children who demonstrate lower emotional competence and more emotional difficulties are more frequently found in families where parents express more negative emotion, engage in more conflict, and are ineffective in helping children deal with their feelings (Cummings & Davies, 1994; Denham, et al., 2000; Eisenberg, Cumberland & Spinrad, 1998; Garner et al., 1997; Gottman, Katz & Hooven, 1996). Correspondingly, children from more emotionally positive and less emotionally explosive households know more about emotions and are more likely to respond in prosocial rather than aggressive ways, in ambiguous situations.

What does this developmental framework mean for policy? A number of early educational programs have implemented “emotions” based curricula and “social skills training programs” to aid children to appropriately identify, choose, and enact prosocial solutions to typical “social” problems such as dealing with conflicts with friends. A few of these interventions also provide teachers with extensive training in effectively building warm relationships with students, creating more positive and productive classroom climates, managing disruptive behavior, and helping young children to develop greater behavioral self-control. Alternately, some programs target families as the place to intervene, aiding parents in appropriate ways to handle their own and their children’s anger and distress. Brief review of whether these programs are successful is included, below.

Young children’s emotional and behavioral problems and disorders: A number of investigators in the area of developmental psychopathology focus on “externalizing problem behaviors” among children who have serious and persistent difficulty controlling their feelings of anger and distress. Children with chronic, severe problems acting out in inappropriate, aggressive ways are viewed as having an emotional or behavioral disorder (EBD) (Quinn, Kavale, Mathur, Rutherford & Forness, 1999) and some of these children are at serious risk for antisocial and delinquent behavior in adolescence and early adulthood (Moffit, 1993; Loeber, Keenan & Zhang, 1997; Nagin & Tremblay, 1999).

How do clinical psychologists explain the development of children’s severe, chronic and emotional and behavioral problems? Again, psychologists point to parenting practices as one significant (if not sole) influence in children’s development of behavior problems, and therefore families’ parenting styles are often a major locus of intervention (Denham et al., 2000; also see Selkelitch & Dumas, 1996 and McEvoy & Welker, 2000 for reviews).

Consistently, researchers also identify “family adversity” or “cumulative risk” as a second environmental influence on young children’s development of later emotional and behavioral disorder. Evidence for this construct of “cumulative risk” has burgeoned, with recent research indicating that it is the extensiveness of multiple risks (e.g. parents’ problems with mental illness, illegal activity, low educational attainment, alcohol and drug abuse, having to rely on public assistance, parenting as a single parent), rather than any single, one of these factors, that best predicts children’s emotional and academic status (Ackerman et al., 2000; Campbell, Shaw & Gilliom, 2000; Sameroff, Seifer, Baldwin & Baldwin, 1993; Yoshikawa, 1994). Impulsive, oppositional preschoolers who are exposed to a high number of these accumulated environmental risks are substantially more likely to fall into an “early starter” group of children who continue to struggle with severe behavior problems

through middle childhood, rather than “growing out” of their aggressive, acting out behavior (Campbell et al., 2000). Clinical research on the treatment of children’s behavioral problems provides a similar portrait of their exposure to cumulative risk. Among one survey of children receiving intensive “integrated” mental health services for behavioral problems, for example, the majority of families struggled with poverty, substance abuse problems and, for ¼ of the families, a history of mental illness (Foster et al., 2001).

It is important to note that this research identifies children at greatest risk for bad outcomes: Without wanting to negatively label any child, this research asks us to recognize that some children manifest the early warning signs of a serious behavioral disorder and are deserving of treatment rather than social stigma or rejection. It is also important to remember that only 60% of children who demonstrate elevated levels of disruptive, aggressive behaviors in early childhood will manifest high levels of antisocial and delinquent behavior, later on (Campbell et al., 2000; Nagin & Tremblay, 1999) and that behavioral assessments of children’s externalizing problems are subject to considerable measurement error (Bennett, Lipman, Racine & Offord, 1998; Lochman et al., 1995). Therefore, it is doubly important to 1) exercise a great deal of caution in identifying and treating children who manifest behavioral problems and 2) to recognize that the environments that shape children’s problematic behavior, such as homes and schools, must be as much the focus of “treatment” (i.e. intervention efforts) as are children (McEvoy & Welker, 2000). With these caveats in mind, it is equally important to recognize the value of identifying and treating children who most need clinical services, as one of many ways to support young children’s school readiness.

III: Avenues of Intervention— Programs That Support Children’s Emotional Competence and Ameliorate Their Emotional Problems

Can the trajectories of children who are headed for emotional and behavioral trouble be deflected, so that they are redirected onto a more positive course of school success rather than school failure? Can the number of children who are “school ready” in any given school or district be increased, by helping families and teachers to support children’s development of emotional understanding and prosocial behavioral styles? There are a wealth of interventions that have been implemented at the family, child care, school, and clinical site levels to address these questions. This paper cannot review all the relevant evaluations of each of these areas of intervention, comprehensively. Instead, broad conclusions will be drawn from different areas of research, relying on relevant meta-analyses, literature reviews, and specific studies, where appropriate. The overview provided below is organized by age range of the children served and

Emotion Knowledge and Emotion Utilization Facilitate School Readiness

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Although largely ignored for a long time, we have known for decades that children's emotion knowledge (EK) contributes to their ability to regulate their emotions and behavior. We have also known for a long time that emotion and self-regulation correlates with various measures of social and academic competence. Emotion knowledge (EK) in older children and adults has many facets. EK in young children has fewer aspects, but these include the capacity for emotion perception and emotion labeling, the two facets that constitute the fundamental infrastructure of EK. Without these two parts of the foundation, scaffolding of the more complex aspects of EK cannot occur. For example, empathy (a vicarious emotional experience) is impossible if the observer cannot detect the emotion signals of the other person. Moreover, if the observer accurately detects the emotion signal, she or he will still need to label it (symbolize it in awareness) to facilitate social communication and make an optimally empathic response. Thus poor skills in emotion perception and labeling greatly diminish the capacity for empathy, the prosocial behavior it can motivate, and its inhibitory effects on aggression. EK in the present context refers mainly to emotion perception and emotion labeling.

Recently we have learned something about the antecedents or causal processes in the development of emotion knowledge (EK) and the causal processes that flow from EK to social skills, academic competence, and peer acceptance—a critical factor in social functioning and success in school. Emotion expression and discourse about emotion feelings in the home, parental use of emotion coaching, and the child factors of emotionality/temperament and verbal ability contribute to the development of EK. Children with low thresholds for negative emotions and poor skills for regulating them will influence the social environment in a way that tends to restrict opportunities to increase understanding of emotions. Such children may require emotion-centered preventive intervention to realize

good progress on the key preschool developmental task of making connections among emotion feelings, appropriate thoughts, and effective behavioral strategies.

The child factor of verbal ability also contributes very substantially to the development of EK. Correlations between either receptive or expressive vocabulary and EK range from about .30 to .60 across a number of studies. Thus conditions that contribute to delayed development of verbal ability also contribute to delays in the development of EK.

More recent studies have shown that EK contributes to the prediction of social and academic competence even after controlling for the effects of verbal ability and emotionality/temperament. In addition to the direct effects of EK on behavioral and academic outcomes, it also plays the role of mediator. In a longitudinal study of Head Start children, emotion knowledge in preschool mediated the effect of verbal ability on academic competence in third grade. Path analysis of data from a study of first and second grade children in a rural/small town district revealed that verbal ability predicted EK, EK predicted social skills, and social skills, in turn, mediated the effect of EK on peer acceptance. Thus, knowing about emotions, and even having the right emotion feeling, are not enough. Socioemotional competence depends on emotion utilization, the use of skills motivated by the emotion. The classic example is empathy, where prosocial behavior occurs only when the motivation of modulated vicarious emotion experience drives relevant helping behavior. Empathy without prosocial action has limited value. Social and academic competence require emotion modulation and the skills to utilize the adaptive motivation inherent in modulated emotion. (For references, email <izard@udel.edu>.

by levels of programmatic intensity.

Intervening When Children Enter School

A wide range of interventions identifies children's entry into formal schooling as a prime opportunity to affect children's social, emotional, and academic competence. While many of these programs recognize that children's emotional development is grounded in their earlier experiences in infancy and toddlerhood, their primary focus is in targeting children in Kindergarten or 1st grade.

Low-intensity interventions in the classroom: Largely based on the model of emotional competence outlined above, some programs have been implemented to change the way that children think about emotions and social situations. Using modeling, role play, and group discussion, teachers can devote relatively small amounts of class time to instruct children on how to identify and label feelings, how to appropriately communicate with others about emotions (e.g. to use words instead of fists), and how to resolve disputes with peers. Often, these curricula are taught for about 2 hours a week, for between 12 and 20 weeks, and they are available as commercially distributed packages (Conduct Problems Prevention Research Group, 1999b; Frey et al., 2000; Greenberg, Domitrovitch, & Bumbarger, 1999; Quinn et al., 1999). The potential gain is that such programs can be offered "universally" to all children in a given classroom, for relatively low cost. As a result, the climate of the classroom may become significantly less chaotic and more conducive to learning (Conduct Problems Prevention Research Group, 1999b). The potential drawback is that these programs may yield only a modest, short-term impact on children's social and emotional behavior (with effect sizes less than .3) (Quinn et al., 1999).

Classroom-based programs have been more effective when they have targeted both children's knowledge of emotions and children's emotional and behavioral self-control through classroom based "games" that reward discipline and cooperation. Some of these programs place substantially greater investment in improving classroom climates through teacher training (in one intervention, this included as much as 60 hours of training) and appear to yield stronger positive effects (Ialongo, Poduska, Werthamer & Kellam, 2001). In that intervention, for example, children who were randomly assigned to the program in 1st grade were significantly less likely to be diagnosed with conduct disorder, significantly less likely to have been suspended from school, and significantly less likely to need mental health services, 5 years later, than were children assigned to a control group (with effect

Classroom-based programs have been more effective when they have targeted both children's knowledge of emotions and children's emotional and behavioral self-control.

sizes equal to .4, Ialongo et al., 2001). While these findings support the value of classroom-based approaches, children's emotional adjustment and school success may also be maximized by coordinating classroom intervention with parent-based approaches (Ialongo et al., 2001).

Low- to moderate-intensity interventions in the home — Parent training programs: From the developmental and clinical frameworks outlined above, it is clear that many psychologists view parenting as playing a key role in children's emotional adjustment. Based on this body of research, a number of interventions have been designed to reduce children's risk for emotional difficulties by aiding parents to increase their positive interactions with their children, to set firm limits on children's negative behaviors, and to reduce their use of harsh parenting practices when the adults, themselves, become angry or upset (McEvoy & Welker, 2000; Kazdin, 1987; Serketich & Dumas, 1996; Webster-Stratton, 1998).

These programs vary in their approach, their intensity, and the locations in which they are implemented (e.g. home visiting programs, telephone support, parenting skills workshops offered by health care providers, parent educators, social work staff). Generally, these programs have shown moderate success (Kazdin, 1987). One concern is that the link between harsh parenting and children's manifestation of behavior problems has been found to hold true for white families but not African American families in some studies, suggesting that interventions must be placed in culturally-grounded frameworks that take community norms, values, and attitudes towards parenting into account (Deater-Deckard & Dodge, 1997; Spieker et al., 1999). A second, significant concern is that the effects of these programs may be more transitory than long-lasting (Corcoran, 2000).

"Multi-pronged" home/school interventions for children at moderate risk: More intensive interventions have also been designed for children who exceed some criterion level of disruptiveness in their first few years of formal schooling. Because the goals of these programs are to help children most prone to externalizing problems, they are termed "targeted" or "indicated" preventive interventions, and they address children's emotional and behavioral difficulties on both home and school fronts. While these programs are more costly to run and are targeted at fewer children, they are expected to pay off in the long run, by reducing the prevalence of costly outcomes such as criminal offenses and drop-out from school among a smaller group of high risk children (Eddy, Reid & Fetrow, 2000; Kazdin, 1997;

McEvoy & Welker, 2000; Conduct Problems Prevention Research Group, 1992; Ialongo et al., 2001).

For example, in one recent intervention, children who were identified as disruptive were given classroom-based social skills training, and their parents were trained to encourage children's positive behaviors, to use "time-outs" for negative behaviors, to supervise children's after-school activities, and to problem-solve in times of family crisis (Tremblay et al., 1995; Vitaro et al., 1999). In some programs, teachers are also provided with additional training, and parent-teacher partnerships are strengthened by regular conferences and phone contact (Ialongo et al., 2001; Reid et al., in press). Recently, a large-scale, multi-site program for young children, called FAST-TRACK, has been implemented, where all children in a given classroom receive 22 weeks of social and emotional skills curricula, regardless of their relative emotional or behavioral risk (Conduct Problems Prevention Research Group, 1999a). In addition, 10% of the enrolled kindergartners who exhibited a high number of behavior problems both at home and school were included, with their parents, in parent training, peer group training, and academic tutoring. Some programs such as "Let's Invest in Families Together" (LIFT) take the prevention program into additional settings, such as the playground, where children may be teased or bullied (Eddy et al., 2000).

Results from a number of experimental studies (using randomized designs) suggest remarkable effectiveness of these multipronged programs on reducing children's disruptive behavior. These gains range from modest improvements in children's social, emotional, and academic skills after 1 year in the FAST-TRACK program, to effect sizes of as high as 1.5 reported by Eddy, et al.'s (2000) LIFT program (Stoolmiller, Eddy & Reid, 2000). These interventions demonstrate clearly that multi-pronged programs translate to significant improvements by reducing children's behavioral problems and their use of special services, and by increasing children's social skills and their reading readiness (Conduct Problems Prevention Research Group, 1999a; Ialongo et al., 2001). These multi-pronged programs have also shown more effectiveness in reducing the likelihood that children will engage in delinquent behaviors, such as drug and alcohol use (Stoolmiller et al., 2000), and in being held back a grade or more, than did the less expensive, lower-intensity, classroom-only interventions described earlier (Vitaro et al., 1999).

Some researchers have pointed out that these findings are not sustained over longer periods of time, and that children's

high school drop-out rates are not significantly affected by the intervention program. This has led investigators to suggest that "one-shot" interventions in early childhood may not be sufficient, and that children may need "booster" levels of intervention support in high school in order to improve chances of later school success. Others have suggested that children with marked behavioral and emotional disorder need more comprehensive, intensive services offered in a clinical setting.

High-intensity clinical interventions for high-risk children: It is important to note that the majority of children in poverty are doing well, emotionally, and should not be stigmatized or viewed from a deficit-oriented perspective (Garcia Coll, Meyer & Brillion, 1995; Garner & Spears, 2000).

However, a small percentage of young children in poverty struggle with serious emotional and behavioral disturbance, and these children deserve access to the same level of intensive clinical intervention services that their more affluent counterparts are likely to purchase through private insurers. Specifically, there exist a range of programs designed to lower the risk of young children's development of serious emotional and behavioral problems in families struggling with multiple, chronic stressors such as high risk of maltreatment, mental illness, substance abuse, and domestic violence. School-based mental health consultation programs, for example, pair psychologists, social workers and psychiatrists with local school districts in order to identify, assess and treat young children who are in serious emotional and behavioral trouble. Clinicians from local community mental health organizations observe classrooms, provide teachers with training in early childhood mental health and development, and provide child- and family-centered psychotherapy to families in need (Cohen & Kaufmann, 2000). As of this writing, no evaluations of school-based consultation programs using randomized trial design could be found. However, the potential for such programs seems promising.

Because harsh, coercive parenting has been identified as a likely predictor of young children's behavior problems, and because juvenile delinquency has consistently been identified as a likely consequence of these same problems, there is considerable overlap between home-based intensive clinical interventions designed to assist multiply stressed families at risk for maltreatment and multi-modal programs designed to reduce the likelihood of juvenile offending among youth. Of these programs, multisystemic approaches appear to be the most rigorously evaluated and the most successful, with

More intensive interventions (that include both parent- and teacher-training) demonstrate remarkable effectiveness in reducing children's emotional and behavioral problems.

older children. Specifically, these programs offer families comprehensive services from clinically-trained caseworkers that work intensively with a small number of families in home, school and community settings (for review of results, see Henggeler, 1999). This approach has strong potential for success with families with young children, given its track record with older children using stringent standards of randomized-trial evaluation (Campbell et al., 2000).

Intervening Prior to School Entry

One developmental axiom is that intervention early in the course of development is more cost-effective than later treatment for children and their families (see Alexander & Entwistle, 1988; Jimerson et al., 2000). Accordingly, there are a wealth of programs designed for families with infants, aimed at reducing risks and supporting positive outcomes among families facing significant poverty-related risks. One problem in considering these programs is that few of these have specifically focused on children's emotional adjustment as a targeted outcome, and so have not extensively assessed their effectiveness in this regard. Instead, programs have hoped to improve low-income children's academic and cognitive performance, indirectly, by working with families (Brooks-Gunn, Berlin & Fuligni, 2000; Yoshikawa, 1994). These programs are briefly reviewed, below, in "broad-brush" fashion.

Home visiting programs for parents of infants and young children: Because many of children's emotional problems appear to be so profoundly affected by parenting practices, many intervention programs aimed at helping adults parent more effectively may also indirectly improve children's emotional and behavioral outcomes. Specifically, many of these programs aim to improve families' provision of sensitive, responsive care, and to curtail families' use of inconsistent and harsh parenting as an indirect means of improving children's later life chances (see Brooks-Gunn et al., 2000; Corcoran, 2000; Gomby, Culross & Behrman, 1999 for reviews). Home visiting demonstration projects have been implemented in a wide array of rural and urban settings and vary broadly in the types of services they offer, from teaching parents about appropriate developmental milestones, early learning, and effective parenting, to public health and social welfare foci oriented towards improving maternal mental health, economic self-sufficiency, and social support (Brooks-Gunn et al., 2000; Gomby et al., 1999; Olds et al., 1998).

Exhaustive review of the efficacy of these programs is too great a task to be tackled here (Brooks-Gunn et al., 2000; Olds & Kitzman, 1990; 1993). Conclusions that can be drawn from smaller experimental and quasi-experimental studies is that some demonstration home visiting programs have generally shown small gains in improving parents' provision of sensitive, nurturing care and in reducing parents' negative, coercive behaviors (with effect sizes rarely exceeding .2).

However, when these programs have been taken to scale, and larger evaluations using randomized design have been conducted, results have been considerably less encouraging (See Gomby et al., 1999; Goodson, Layzer, St. Pierre, Bernstein & Lopez, 2000). Surprisingly, few studies have examined whether the program has been effective in indirectly supporting children's emotional development (Brooks-Gunn et al., 2000; Yoshikawa, 1994).

Moderate-intensity interventions in child care and early educational settings: Given that 61% of children ages 3-5 spend a significant portion of their day with child care providers other than their parents, it is particularly important to focus on child care's effects on young children's emotional development and school readiness (Arnold et al., 1999). Child care providers identify preschoolers' disruptiveness as a serious problem in their classrooms, and children might learn greater emotional and behavioral self-control in smaller classes with increased teacher training and support (Arnold et al., 1999; Denham & Burton, 1996; Gross et al., 1999; Hamre & Pianta, 2000). Yet few experimental studies have been carried out that focus on improving child care quality and caregivers' classroom management practices as avenues for decreasing children's emotional and behavioral difficulties (Webster-Stratton, 1999). It is clear that considerable additional research is needed to examine the question of whether and how child care quality may affect young children's emotional development and school readiness (Arnold et al., 1997; Hagekull & Bohlin, 1995).

Among early educational settings, Head Start stands out for its historical commitment to supporting young children's social and emotional development (Zigler & Styfco, 1995). Findings regarding the impact of early educational settings such as Head Start and state-funded preschool programs on young children's emotional development, however, are mixed. On one hand, results from longitudinal studies of intervention programs such as the Chicago Child-Parent Centers and High Scope/Perry Preschool suggest that this form of intervention is well worth the investment, leading to extremely long-term social and academic gains for enrolled children (Barnett, 1995). On the other hand, few evaluations of early educational interventions have utilized a randomized design, leading to skepticism regarding the validity of claims of programmatic success.

Specifically, nonrandomized studies cannot rule out the possibility that families with differing levels of skills, attitudes, and competencies choose whether or not to enroll their children in early interventions. If families with comparatively more skill and competence are more likely to enroll their children in early interventions, some investigators point out that children's successes that should be attributed to family competencies are misinterpreted as resulting from the intervention (Mayer, 1997). One recent meta-analysis of

School Readiness and Regulatory Processes

Claire B. Kopp

Raver challenges us to understand more fully the causes of inadequate social and emotional readiness for school. A useful starting point involves distinguishing three crucial regulatory processes—physiological, emotional, self-regulation—from each other. Thinking about the distinctiveness of each process including developmental origins and associated risk factors should lead to greater understanding of children’s dys-regulation and intervention needs. This decoupling approach does not negate the reality that school readiness entails a seamless melding of all three processes.

Physiological regulation (PR) typically begins in the early weeks of life with gradually emerging control of bio-physiological systems (e.g., digestion, arousal, sleep). Over time PR transitions into a bio-behavioral process in which arousal control is intrinsic to infant attention, social-interactions, and learning. Optimally, arousal control reflects a day and night cycle with daytime periods of observant attentiveness alternating with quiet alertness, and nighttimes containing restful sleep. Physiological dys-regulation is apparent in the newborn period, particularly among babies exposed to prenatal/perinatal risks. However, even healthy babies show non-optimal PR due to chaotic rearing contexts and inadequate parenting. The result: children who continue to have disturbed sleep, heightened irritability, and erratic alertness, and subsequent compromised attention, learning, emotion competencies, and social experiences. A new challenge (e.g., school entry) typically overwhelms these children because of their fragile bio-behavioral regulatory systems.

In contrast to the more generalized aspect of PR, emotion-regulation (ER) refers to modulating the intensity of emotion responses such as anger, fear, pleasure, sadness, and other emotions. Effective ER

means a response is appropriate to context, enhances rather than jeopardizes bio-behavioral well-being, and guides subsequent social and cognitive activities. ER begins during the 1st and 2nd years of life, and depends on appropriate caregiver inputs (e.g., soothing, facilitation of infant attention to potential soothers, descriptions of feelings) such that babies and toddlers *intentionally* reduce fretfulness by exploring interesting sights, engaging in play, gesturing to parents for assistance, finding self-soothers (e.g., blanket), and talking about their distress. During the 2nd and 3rd years, the growth of ER is also a function of children’s understanding of their own and others’ emotion states, and their ability to reason about emotions. Risk factors include inadequate parenting, children with heightened reactivity to stimuli, and language skills inadequate for handling interpersonal disputes.

In contrast to PR and ER, self-regulation (SR) is fundamentally a balancing of self defined needs with respect to societal/cultural values and norms. For young children, SR involves the ability to comply with everyday family norms, including delaying behaviors as appropriate. Parents typically begin socializing toddlers to norms by the second year. Because toddlers do not readily accept limitations, the growth toward effective SR requires perceptive parenting *and* an emotional bond between parent and child. In turn, children must be attentive to parents’ messages and understand their own role in SR. In addition to the parent and child risk factors noted above, another important one concerns limited parental inputs about everyday rules.

This sidebar has highlighted the unique features of regulatory processes, and noted their parallel developmental trajectories. It should be apparent that integration of the processes leads to competent school

State-funded preschools emphasize that the lack of rigorous evaluation design seriously hampers any interpretation that can be made of the few, modest gains (with most effect sizes of approximately .2) regarding participants' school readiness (Gilliam & Zigler, 2001). A national randomized trial evaluation of Head Start is planned in the next few years, and such results will likely provide a clearer index of the ways that Head Start may make a difference for young children's emotional development and school readiness.

Moderate- to high-intensity home/classroom interventions: Many interventions designed for families facing high risk combine both of the components described above, offering families home visits in infancy followed by enrollment in "enriching" early educational programs in toddlerhood (Brooks-Gunn et al., 2000; Yoshikawa, 1995). Results of randomized-trial evaluations of these demonstration programs (such as BEEP, CARE, IHDP), suggest positive effects on parenting, with mixed results regarding their effects on young children's emotional development (Brooks-Gunn et al., 2000). Early findings from randomized-trial research with a nationally implemented program of 0-3 family support for early school readiness (Early Head Start) are promising. Specifically, families in the Early Head Start program demonstrated more supportive parenting, with children demonstrating lower levels of aggression and greater emotional self-regulation, than did families in the control group, with modest effects (of approximately .1 to .2) in more established programs that had been implemented in both homes and centers.

Recent research suggests that early educational settings may offer a valuable opportunity to implement multi-pronged, comprehensive teacher- and parent-training programs that specifically target children's emotional and behavioral adjustment. One program, titled "The Incredible Years," offers comprehensive training to Head Start parents, teachers, and children, over 12 weeks (Webster-Stratton, 1998). This intervention has led to significant improvements in teachers' use of more positive, less harsh classroom management practices, improved classroom climate, and less disruptive behavior on the part of children (with effect sizes averaging .6, Webster-Stratton, Reid & Hammond, 2001). Importantly, the intervention also yielded improvements in skills important to children's school readiness, such as their greater engagement and more self-reliance in the classroom (Webster-Stratton et al., 2001). Similar to the school-aged, multi-pronged interventions reviewed earlier, this set of intervention studies demonstrates that substantial gains can be made in improving young children's emotional and behavioral adjustment when both home and school fronts are targeted.

High-intensity interventions aimed at improving infant and preschool mental health: A small number of clinically-

oriented programs can be identified that offer comprehensive mental health services to both mothers and their infants or young children. Families enrolled in these services have largely been identified as needing services because of social service providers' concerns with economic self-sufficiency (Knitzer, Cauthen & Kisker, 1999), maternal psychopathology (e.g. maternal depression, Dickstein et al., 1998), maternal substance abuse (Lester, Boukydis & Twomey, 2000), or child health and mental health problems diagnosed early (e.g., low birth weight, neurological impairment, early-onset conduct problems or developmental delay). Interestingly, these programs emphasize the therapeutic benefit of repairing "breakdowns" in dyadic relationships for both parents and children, aiding the parent-child "system" to get back on an optimal track. Few large-scale, randomized trial evaluations of these programs have been conducted, and fewer still include long-term emotional or school readiness outcomes among participating children. It stands to reason that families facing a large number of grave psychosocial stressors may need this level of intensive, clinical support in order to avoid long-term, costly emotional and behavioral problems.

Similarly, there have been a number of recent calls to improve screening and treatment efforts for toddlers and preschool-aged children with serious emotional and behavioral problems (Arnold et al., 1999; Briggs-Cowan,

Preschool and child care settings offer a valuable opportunity to implement comprehensive, multi-pronged interventions that support young children's emotional and behavioral adjustment.

Carter & Skuban, & Horwitz, 2001; Fantuzzo et al., 1999; Gross et al., 1999; Yoshikawa & Knitzer, 1997). For example, teachers have significant concerns for some of their students' overactivity, inattentiveness, and disruptiveness, with Head Start teachers reporting that 10% of their students exhibit high levels of antisocial, aggressive behavior (Kuperschmidt, Bryant & Willoughby, 2000). Despite these concerns, Head Start teachers face multiple barriers in referring children for emotional and behavioral difficulties (Fantuzzo et al., 1999). Head Start teachers have few opportunities for classroom-level mental health consultation and support, and, despite a national Head Start Performance Standard mandate to serve children with emotional and behavioral disorders, participating children rarely receive special services for these difficulties (Fantuzzo et al., 1999).

There is some sparse evidence that, despite these barriers,

Head Start might be an excellent site for service provision to young children at high risk for later behavioral difficulty (see Fantuzzo et al., 1996; Lara, McCabe & Brooks-Gunn, 2000). For example, in additional randomized studies of the “Incredible Years” intervention (described earlier), almost all (90%) of the Head Start children with conduct problems who were in the “treated” group showed a “clinically significant” (e.g. a 30% or greater) reduction in their acting out, aggressive, and oppositional behavior, as compared to improvements in behavior for only 27% of the control group children (effect sizes immediately post-treatment were in the .5 range) (Webster-Stratton & Hammond, 1997). Unfortunately, this kind of intervention stands as an exception rather than the rule in the early childhood clinical literature: Few other clinically-oriented, multi-modal, and rigorously-evaluated interventions, designed and implemented for high-risk, low-income preschoolers, could be found for this review (see Arnold et al., 1999; Fantuzzo et al., 1996). While recent Federal initiatives and literature reviews on Head Start children’s mental health have signaled increased interest in this area (see Webster-Stratton & Taylor, 2001; Yoshikawa & Knitzer, 1997), there is clearly still much to be learned regarding the prevalence and treatment of behavior problems among Head-Start eligible preschoolers, and regarding the long-term social and academic benefits of providing treatment in the preschool years.

IV: Summing up — Cautions and Recommendations

Cautions: One question that arises from this review is: How we can explain the widely varying levels of effectiveness that have been demonstrated across these different types of interventions? Three cautions are offered in an effort to explain variation in past programmatic success and to frame our expectations for the success of future interventions.

First, programmatic success is clearly reliant, in great measure, on the extent to which families participate in the programs designed to serve them (Brooks-Gunn et al., 2000). In many studies, across a wide diversity of types of intervention, rates of attrition in programs are alarmingly high and program participation rates are worryingly low (Corcoran, 2000; Gomby et al., 2001; Kazdin, Mazurick & Bass, 1993; Korfmacher, Kitzman & Olds, 1998; Yoshikawa, Rosman & Hsueh, 2001). Many investigators have suggested that the quality of partnership or “therapeutic alliance” between the practitioner/educator/clinician and the family need improvement (Corcoran, 2000; Brooks-Gunn et al., 2000; Orrell-Valente et al., 1999). In addition, it may be that programs are not sufficiently comprehensive in addressing both parental and child mental health problems. Specifically, as this review suggests, some children at high risk for emotional and academic difficulty live in vulnerable families facing multiple ecological stressors that make participation in programs very difficult (Liaw, Meisels & Brooks-Gunn,

1995). Some children who are acting out, in school, face not one, but many problems at home, and those problems are likely to be serious, long-term and requiring of significant attention by professionals in the legal, psychological and social work communities, rather than simply through a short-term parenting curriculum, for example (St. Pierre & Layzer, 1998). In sum, it is clear from the cumulative risk literature that families who may need intervention services most, may be least able to participate in interventions unless these programs address at least some of these stressors, directly.

Second, it may be unreasonable to expect long-term emotional and behavioral gains on the part of young children, if their families continue to face chronic, structural stressors that erode children’s psychosocial health. It is inappropriate to expect that a short-term program lasting a year or less will “inoculate” a child from the debilitating consequences of a chronic, recurring set of material hardships such as deep poverty, inadequate housing, and violent surroundings. As many leaders in the field of poverty research have noted (Chase-Lansdale & Brooks-Gunn, 1998; Huston et al., 2001; Yoshikawa, 1999) this is certainly one of the driving tenets behind Welfare Reform efforts: to raise families out of poverty rather than simply aiding poor families cope with the material hardships that they face. This means a) that policy makers and the public may need to lower their expectations of psychosocially-oriented interventions, if they are not paired with interventions aimed at families’ economic security at the structural level and b) that structural interventions, such as improvements in family income, neighborhood safety and residential stability may have important and significant effects on children’s emotional and behavioral well-being, that are well worth tracking (see for example, Duncan & Brooks-Gunn, 2000; Katz, Kling & Liebman, in press; Knitzer, Yoshikawa, Cauthen & Aber, 2000; Morris, 2002). For example, programs such as Moving to Opportunity (conducted by the U.S. Department of Housing and Urban Development (HUD)) suggest that providing low-income families with housing in a safer, more affluent neighborhood significantly reduces low-income boys’ behavior problems (demonstrating an effect size of .5 when compared to their control group counterparts) (Katz et al., in press). While neighborhood and family poverty extend beyond the scope of this paper, it is important to highlight the critical need for continued research on the impact of structural and economic interventions (such as Welfare Reform efforts) on young children’s emotional health and school readiness.

Third, we must recognize that the economic, employment, and policy contexts in which high-risk families have changed substantially from the conditions under which many models of interventions were originally designed and implemented, now over 20 years ago (e.g. Olds et al., 1999). Home visiting and family involvement components of many programs may

be particularly challenging to implement when increasing numbers of low-income mothers face strong policy mandates to enter and stay in the workforce. Unless welfare reform policies are substantively amended to allow parent participation in early childhood interventions to “count” as employment, it is likely that stressed, economically insecure families may have to place participation in home visiting prevention/intervention efforts as a lower priority than participation in work and work-related activities (Gyamfi, Brooks-Gunn & Jackson, 2001; Lamb-Parker, Piotroski, Baker, Kessler-Sklar, Clark & Peay, 2001). State and local family support, early education, and welfare-to-work policy professionals need to insure that programs are coordinated, rather than working at cross-purposes, when taking families’ time and attention.

Recommendations:

The first set of recommendations following from this review is that educational policy makers at the Federal, state and local levels should capitalize on public support for young children’s school readiness by making a range of investments in their emotional adjustment as well as their academic skills. In service of this goal, it is key that policy makers, researchers, and the public recognize that children’s emotional and behavioral difficulties are amenable to change. Specifically, results from a wide range of randomized, rigorous interventions demonstrate that children’s emotional development is plastic and open to environmental influence. Multi-pronged intervention efforts that are implemented on home and school fronts significantly deflect children’s negative behavioral trajectories and significantly improve their chances for later school success. Early childhood and educational policy professionals are specifically urged to consider the following options as ways to strengthen children’s school readiness:

- Target children prior to school entry, in diverse settings such as Head Start, child care settings, as well as in the first few years of school.

These settings are often already supportive of the importance of early social and emotional health, and have already made substantial programmatic commitments to this area of young children’s development. These commitments should be strengthened with additional funding and support.

- Broaden early elementary educational mandates for school readiness to include children’s emotional and

behavioral adjustment as key programmatic goals.

In our haste to increase children’s pre-literacy skills, for example, it is essential that we do not lose sight of the contributions that children’s emotional and behavioral adjustment makes to their chances for academic success.

- Consistently assess young children’s emotional adjustment, using psychometrically valid measures of both their emotional and behavioral competence and difficulty, in child care and early educational settings as well as during their transition through the first few years of elementary school.

It is clear from this review that much remains to be learned regarding the role of children’s emotional adjustment in predicting their likelihood of later academic success. Tracking children’s emotional adjustment along with children’s early academic progress will aid both researchers and policy professionals in answering key questions regarding the impact of improvements versus decrements in children’s emotional adjustment on their ability to do well, academically, over time.

- Support young children with interventions that span a range of programmatic intensity.

Low-cost, universal interventions may provide tangible benefits by making preschool and early elementary classrooms more positive and less chaotic learning environments. However, review of the literature suggests that these benefits are best realized when children who are at gravest risk for negative emotional and academic problems are also provided with more intensive services, implemented in both home and classroom contexts. A number of the innovative interventions reviewed

earlier have successfully found ways to offer much-needed services to these children without stigmatizing them or losing the support of important stakeholders such as parents and teachers. Therefore, leaders are strongly encouraged to support the provision of both low-intensity, universal programs and higher-intensity supports for the families who have been identified as needing these services most. These models deserve broader implementation, with carefully designed evaluations that test whether there are significant emotional, behavioral, and academic gains for both the intervention participants and for the classrooms in which these children are enrolled.

- Pay close attention to issues of quality assurance and attrition when investing in young children’s emotional

Improvements in family income, neighborhood safety, and residential stability may have important and significant effects on children’s emotional and behavioral well-being.

adjustment and school adjustment by implementing innovative interventions.

It is key that researchers, evaluators, and practitioners maximize programs' chances of success by making sure that the most stressed families who may show the most substantial gains are identified, enrolled and complete the program. The quality of services that are offered must remain consistent and well-documented across the "life" of the program's implementation if both intervention successes and difficulties are to be clearly and carefully understood.

- A small proportion of young children will need integrated, comprehensive services available to multiple members of their families in order for gains in children's school readiness to be realized.

Multiple agencies serving young children must be provided with the support needed to work collaboratively. Teachers in Head Start, pre-Kindergarten, Kindergarten, and elementary classrooms deserve professional support by being given training and better access to clinical service referral for young children and their families. This level of clinical consultation and support will help teachers focus more effectively on the job of teaching, while also helping young children who manifest clinically elevated levels of emotional and behavioral difficulty get the services that they need (Fantuzzo et al, 2001). While models of "systems of care" have begun to be built among juvenile justice, child welfare, public health and mental health systems of service delivery for older children (Holder, Friedman, & Santiago, 2001), these services are sorely needed for younger children (Yoshikawa & Knitzer, 1997).

A second set of recommendations can be directed to intervention-oriented funders, policy makers, and investigators in other areas of child welfare, family support, and economic self-sufficiency, as well as in education. Specifically, researchers and policy professionals in these other areas are urged to consider improvements in young children's emotional development as worthy targets of intervention and as key benchmarks of programmatic success. The second major conclusion that can be drawn from research reviewed earlier is that we have considerably more to learn about the course of young children's emotional development, particularly in the context of large-scale interventions of all kinds. In the past, investigators have been reticent to include measures of children's emotional development, arguing that there were few robust, reliable and valid measures, and that many were difficult to use (for review, see Raver & Zigler, 1997). That has since changed: a wide range of excellent assessment tools is now available with which to assess young children's emotional and behavioral skills (Fantuzzo,

Manz & McDermott, 1998; Fantuzzo, Coolahan, Mendez, McDermott, & Sutton-Smith, 1998; Raver & Zigler, 1997).

A third set of recommendations is also clear and is addressed to both policy audiences: Without economic security, many families and children will be hard pressed to be emotionally healthy, well-regulated and ready for school. We must make sure that Welfare Reform and school readiness objectives and programs work together, rather than at odds with one another. One major concern with Welfare Reform efforts in the late 1990's was that low-income mothers' entry into the workforce would be paralleled by increases in mothers' levels of stress, use of detrimental parenting strategies, and corresponding decrements in children's emotional well-being. It appears from recent review of results across multiple demonstration projects that employment mandates, paired with incentives, have not had the deleterious effects on young children's emotional well-being that some had feared (Huston et al, 2001; Morris, et al., 2000; Yoshikawa, 1999). Just as school readiness programs need to be mindful of Welfare Reform demands that families face, so too can Welfare Reform efforts benefit from substantive attention to parental and child psychological and emotional health.

Notes

¹ Estimates of effect size provide a standardized way to evaluate the magnitude of the impact of a particular intervention on a given child outcome. While omnibus tests of significance (e.g. F or t statistics and their p values) inform the reader of a significant difference between control and intervention groups on a given outcome, effect size estimates inform the reader about how large or small that difference is. For example, consider a hypothetical classroom intervention designed to increase children's ability to work prosocially with peers: An effect size of .1 would, in most cases, be considered modest, in that a treatment with a .1 effect size would be associated with an increase of 1/10 of a standard deviation in their ability to work with their peers. In contrast, an effect size of .5 would suggest that the treatment is associated with an improvement of a full ½ of a standard deviation in children's ability to work with their peers. For a more comprehensive discussion of ways to calculate effect size estimates, the practical importance of findings based on considerations of effect size, and different ways of interpreting the meaning of small and large effects, see McCartney & Rosenthal, 2000.

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