ED477640 2003-07-00 Self-Regulation and School Readiness. ERIC Digest.

ERIC Development Team

www.eric.ed.gov

Table of Contents

If you're viewing this document online, you can click any of the topics below to link directly to that section.

ERIC Identifier: ED477640
Publication Date: 2003-07-00
Author: Blair, Clancy
Source: ERIC Clearinghouse on Elementary and Early Childhood Education Champaign IL.

Self-Regulation and School Readiness. ERIC Digest.

Self-regulation of behavior generally refers to controlled, cognitive monitoring of the actions and steps required to obtain a goal, or to bring about a desired response from the environment. Age-related changes in self-regulation as well as individual differences

in self-regulation at a given age or developmental stage play fundamental roles in shaping children's experiences and the responses that children bring forth from caregivers and others. Changes from basic types of reflexive regulation in infancy (e.g., self-soothing, gaze aversion), to early attempts at voluntary control of behavior in toddlerhood (e.g., the intentional coordination of walking and reaching to gain some end), to active, cognitive control of behavior in the early childhood years (e.g., remembering and following rules) represent key developmental shifts in children's abilities (Kopp, 1989). Increasingly, research in child development has come to focus on these shifts and the ways in which parents, peers, and early care experiences play an important part in the development of children's self-regulation (NICHD Early Child Care Research Network, 2003). However, individual differences in children's temperamental emotional reactivity (an automatic autonomic and behavioral response to emotion-inducing stimulation) and the ability to control this reactivity are also important for understanding developing self-regulation. This Digest focuses on emotional reactivity and its relation to the development of cognitive functions that promote self-regulation in young children. It examines how emotions may influence the development of the cognitive functions that contribute to successful self-regulation and thereby to school readiness.

REGULATION AND READINESS

Self-regulation skills underlie many of the behaviors and attributes associated with successful school adjustment (Blair, 2002). In particular, both regulation of emotion in appropriate social interaction and goal-directed behavior, as well as the regulation of attention and the use of strategies in the execution of cognitive tasks, are important for successful adjustment to school. A survey of a nationally representative sample of kindergarten teachers indicated clear endorsement of multiple aspects of child self-regulation as being essential or very important to school readiness, including being able to:

* communicate needs, wants, and thoughts verbally

* sustain attention and be enthusiastic and curious in new activities

* inhibit impulsivity and follow directions

* take turns and be sensitive to other children's feelings

In contrast, few teachers endorse strictly academic aspects of readiness, such as letter or number knowledge or the ability to use a pencil or paintbrush (Lewit & Baker, 1995).

Similarly, longitudinal studies of young children representative of middle-income backgrounds indicate that self-regulation skills such as those listed above underlie the strong relation between social and academic competence observed in the early elementary grades. Specifically, children who achieve academically at high levels and exhibit positive social and cognitive developmental trajectories through the early elementary grades (1) easily form and maintain friendships, (2) have greater self-perceived control over learning activities and liking for school, and (3) are rated by the teacher as having high levels of persistence and the ability to resist distraction (Ladd, Birch, & Buhs, 1999; Normandeau & Guay, 1998).

INDIVIDUAL DIFFERENCES

Although knowledge of the normative developmental course of self-regulation in young children is well advanced, our understanding of individual differences among children and of the ways in which cognitive, emotional, and physiological aspects of self-regulation are interrelated within the child is less well established. Here, research on temperament provides a useful framework (Rothbart & Ahadi, 1994). Current definitions of temperament emphasize biologically based individual differences in emotional reactivity and in the developing physiological and cognitive regulation of this reactivity (Posner & Rothbart, 2000). For example, a particularly shy or withdrawn child is thought to be characterized by high levels of emotional reactivity but low levels of regulatory control of this reactivity. In contrast, a child with high levels of effortful regulatory control over emotional reactivity involving anxiety or wariness in the presence of strangers might be thought to be characterized by a more balanced or easy-going temperament type.

SELF-REGULATION AND COGNITIVE SKILLS

Examination of emotional reactivity and the effortful control of this reactivity in the study of temperament suggests a particular course for the development of self-regulation in young children. Specifically, neuroscientific research indicates reciprocal influence between areas of the brain associated with reactivity resulting from emotional arousal and areas of the brain associated with the effortful cognitive control of this reactivity (LeDoux, 1995). In brief, emotional experience can either disrupt or facilitate the application of the cognitive control processes that are important for self-regulation, such as sustaining attention, holding information in mind when solving a problem, and inhibiting impulsive responding when formulating and executing a response (Derryberry & Reed, 1996). In models of self-regulation in the adult, it is well known that negative emotional experience can lead to poor attention, increased disengagement and impulsivity, and increasing negative affect, while positive emotional experience can lead to higher levels of sustained attention, engagement, and persistence (Carver & Scheier, 1990). In young children, similar processes are at work; however, unlike in the typical

adult, in the child, higher-order cognitive processes that can serve as the bulwark against the ups and downs of emotional experience are just beginning to develop. Only limited work has explicitly examined the role of emotionality and emotional reactivity in the development of higher-order cognitive control processes such as working memory and attention that are important for self-regulation and for school readiness and school success. An important scientific next step is the direct examination of ways in which influences on physiological and neurobiological aspects of emotional reactivity and regulation in young children are related to success in the transition from preschool to elementary school. Certainly, emphasis on social and emotional aspects of readiness for school is increasing. Numerous research reports and policy papers attest to the vital role of social and emotional competence for successful school adaptation (Raver & Knitzer, 2002). Work on the neurobiology of the interaction between emotional and cognitive aspects of child functioning provides increasing support for this emphasis and suggests that successful emotion regulation plays a foundational role in the development of the cognitive skills that are important for early success in school.

IMPLICATIONS FOR CAREGIVERS

Most specifically, it is important that individuals caring for, working with, or studying the development of young children recognize that biologically based aspects of emotional reactivity and regulation are influenced by aspects of the caregiving environments in which children are situated. From a risk and resilience perspective, the child characterized by high levels of emotional reactivity within an environment that provides little support for self-regulation is at high risk for difficulty in school. In particular, in the effort to promote school readiness in young children, several key points are suggested by the growing body of research on the interaction of cognition and emotion in the development of school readiness:

* High-quality preschool education programs can best

promote school readiness by helping to secure the

social and emotional foundation upon which children

can build cognitive skills that promote knowledge

acquisition in academic domains such as reading and math.

* A premature focus on knowledge acquisition in

preschool without attention to cognitive and

social-emotional competencies through which knowledge is

acquired could lead to learning problems and early

school failure for some children.

* Learning occurs within relationships. Early learning

environments in which teachers are attuned to

temperamental differences among children may help to

provide a comprehensive basis for the development of

skills important for learning.

* Preschool activities that exercise impulse control, sustained attention, and working memory are likely to promote the development of cognitive skills important for knowledge acquisition in the early elementary grades.

* Young children differ in level of emotional reactivity and in the need to express this reactivity. For example, many young children require a great deal of rough and tumble play (Panksepp, 1998). Preschool environments that restrict or limit the time allotted to this type of play may unwittingly limit the development of the cognitive self-regulation skills important for later school success.

FOR MORE INFORMATION

Blair, C. (2002). School readiness: Integrating cognition and emotion in a neurobiological conceptualization of child functioning at school entry. AMERICAN PSYCHOLOGIST, 57(2), 111-127. EJ 646 501.
Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative

affect: A control-process view. PSYCHOLOGICAL REVIEW, 97(1), 19-35. EJ 494 079.

Derryberry, D., & Reed, M. A. (1996). Regulatory processes and the development of cognitive representations. DEVELOPMENT AND PSYCHOPATHOLOGY, 8(1), 215-234.

Kopp, C. B. (1989). Regulation of distress and negative emotions: A developmental view. DEVELOPMENTAL PSYCHOLOGY, 25(3), 343-354. EJ 392 562.

Ladd, G. W., Birch, S. H., & Buhs, E. S. (1999). Children's social and scholastic lives in kindergarten: Related spheres of influence? CHILD DEVELOPMENT, 70(6), 1373-1400. EJ 602 156.

LeDoux, J. E. (1995). Emotion: Clues from the brain. ANNUAL REVIEW OF PSYCHOLOGY, 46, 209-235.

Lewit, E. M., & Baker, L. S. (1995). School readiness. FUTURE OF CHILDREN, 5(2), 128-139. EJ 522 415.

NICHD Early Child Care Research Network. (2003). Do children's attention processes mediate the link between family predictors and school readiness? DEVELOPMENTAL PSYCHOLOGY, 39(3), 581-593.

Normandeau, S., & Guay, F. (1998). Preschool behavior and first-grade school achievement: The mediational role of cognitive self-control. JOURNAL OF EDUCATIONAL PSYCHOLOGY, 90(1), 111-121. EJ 571 175.

Panksepp, J. (1998). Attention deficit hyperactivity disorders, psychostimulants, and intolerance of childhood playfulness: A tragedy in the making? CURRENT DIRECTIONS IN PSYCHOLOGICAL SCIENCE, 7(3), 91-98.

Posner, M. I., & Rothbart, M. K. (2000). Developing mechanisms of self-regulation. DEVELOPMENT AND PSYCHOPATHOLOGY, 12(3), 427-441.

Raver, C. C., & Knitzer, J. (2002). READY TO ENTER: WHAT RESEARCH TELLS POLICY MAKERS ABOUT STRATEGIES TO PROMOTE SOCIAL AND EMOTIONAL SCHOOL READINESS AMONG THREE- AND FOUR-YEAR-OLD CHILDREN [Online]. New York: National Center for Children in Poverty. Available: http://www.nccp.org/ProEmoPP3.html. ED 467 045.

Rothbart, M., & Ahadi, S. (1994). Temperament and the development of personality. JOURNAL OF ABNORMAL PSYCHOLOGY, 103(1), 55-66.

References identified with an ED (ERIC document), EJ (ERIC journal), or PS number are cited in the ERIC database. Most documents are available in ERIC microfiche collections at more than 1,000 locations worldwide (see http://www.ed.gov/Programs/EROD/). They can also be ordered through EDRS: 800-443-ERIC or online at http://www.edrs.com/Webstore/Express.cfm. Journal articles are available from the original journal, interlibrary loan services, or article reproduction clearinghouses such as Ingenta (800-296-2221).

This project has been funded at least in part with Federal funds from the U.S. Department of Education under contract number ED-99-CO-0020. The content of this publication does not necessarily reflect the views or policies of the U.S. Department of Education, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

ABOUT ERIC/EECE DIGESTS... ERIC/EECE Digests are short reports on topics of current interest in education. Digests are targeted to teachers, administrators, parents, policy makers, and other practitioners. They are designed to provide an overview of information on a given topic and references to items that provide more detailed information. Reviewed by subject experts who are content specialists in the field, the digests are funded by the U.S. Department of Education.

All ERIC/EECE Digests are available free in original printed form directly from the clearinghouse. For additional information on this topic, please contact ERIC/EECE directly at ericeece@uiuc.edu or 1-800-583-4135.

—

Title: Self-Regulation and School Readiness. ERIC Digest.
Document Type: Information Analyses---ERIC Information Analysis Products (IAPs) (071); Information Analyses---ERIC Digests (Selected) in Full Text (073);
Available From: ERIC Clearinghouse on Elementary and Early Childhood Education, Children's Research Center, University of Illinois, 51 Gerty Dr., Champaign, IL 61820-7469. Tel: 800-583-4135 (Toll Free); Tel: 217-333-1386; Fax: 217-333-3767; e-mail: ericeece@uiuc.edu; Web site: http://ericeece.org. For full text: http://ericeece.org/pubs/digests/2003/blair03.html.
Descriptors: Affective Behavior, Classroom Environment, Cognitive Development, Early Childhood Education, Emotional Response, Learning Readiness, Personality, School Readiness, Young Children
Identifiers: ERIC Digests, Self Regulation
###

—

[Return to ERIC Digest Search Page]