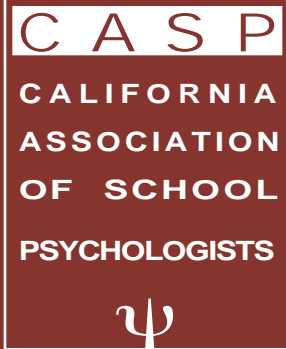


2003 Volume 8



The

California

School

Psychologist

Includes a Special Topic Section:
**School Engagement,
Youth Development, and
School Success**

The California School Psychologist

EDITOR

Shane R. Jimerson

University of California, Santa Barbara

ASSOCIATE EDITORS

Brent Duncan

Humboldt State University

Michael Furlong

University of California, Santa Barbara

EDITORIAL ADVISORY BOARD

John Brady

Chapman University

Stephen Brock

California State University, Sacramento

Susan Bryner

Clovis Unified School District

Valerie Cook-Morales

San Diego State University

Leslie Cooley

California State University, Sacramento

Alan Daly

Oxnard School District

Barbara D'Incau

University of California, Santa Barbara

Jean Elbert

California State University, Northridge

Meri Harding Storino

Sonoma State University

Carolyn Hartsough

University of California, Berkeley

Michael Hass

Chapman University

Bonnie Ho

California State University, Hayward

Lee Huff

Huntington Beach Unified High School District

Colette Ingraham

San Diego State University

Brian Leung

Loyola Marymount University

Robert Martin

Asuza Pacific University

Kristin Powers

California State University, Long Beach

Jonathan Sandoval

University of California, Davis

Michael Vanderwood

University of California, Riverside

Linda Webster

University of the Pacific

Marilyn Wilson

California State University, Fresno

STUDENT EDITORIAL PANEL

Gabrielle Anderson

University of California, Santa Barbara

Rebecca Bell

University of California, Berkeley

Amber Kaufman

University of California, Santa Barbara

Jennifer Matorin

California State University, Northridge

Stacy L. O'Farrell

University of California, Santa Barbara

Cotrane Payne

University of California, Berkeley

Jill Sharkey

University of California, Santa Barbara

CASP BOARD OF DIRECTORS 2003-2004

President

Lynne B. Aung

President-Elect

Bobbie Kohrt

Past President

Brent Duncan

Secretary/Treasurer

Irene Elliott

Affiliate Representative

Ross Zatlín

Region I Representative

Melinda Susan

Region II Representative

Connie Hilton

Region III Representative

Paul Carlson

Region IV Representative

Janet Murdock

Region V Representative

Doug Siembieda

Region VI Representative

Denise Zuckerman

Region VII Representative

Art Reifman

Region VIII Representative

Patricia McGovern

Region IX Representative

Elena Alvarez

Region X Representative

Stephen Brock

Design, Layout, and Formatting of *The California School Psychologist* 2003, Volume 8

completed by Shane R. Jimerson, Michael J. Furlong, and Amber M. Kaufman at

The Center for School-Based Youth Development, at the University of California, Santa Barbara

Copyright by CASP, 2003 Produced annually by the California Association of School Psychologists. Articles herein printed are the expressions of the author(s) and are neither statements of policy nor endorsements of CASP. Submission of manuscripts for review and consideration for publication in the *The California School Psychologist* journal are to be mailed directly to the Editor. See Guidelines for Authors on the back cover of this volume for more information. Individuals (other than members) with an annual subscription to *CASP Today* do not receive *The California School Psychologist* as part of their subscription. Individual copies of *The California School Psychologist* are available for \$20.00.

ISSN: 1087-3414

CASP OFFICE

Suzanne Fisher, Executive Director

1400 K Street, Suite 311, Sacramento, CA 95814

Phone (916) 444-1595 Fax (916) 444-1597 www.casponline.org

The California School Psychologist

2003, Volume 8

CONTENTS

Editorial

- Shane R. Jimerson The California School Psychologist Provides Valuable Information Regarding School Engagement, Youth Development, and School Success 3

Special Topic Articles

- Shane R. Jimerson Toward an Understanding of Definitions and Measures of School Engagement and Related Terms 7
Emily Campos
Jennifer L. Greif

- Mary F. Sinclair Facilitating Student Engagement: Lessons Learned from Check & Connect Longitudinal Studies 29
Sandra L. Christenson
Camilla A. Lehr
Amy Reschly Anderson

- Greg Jennings An Exploration of Meaningful Participation and Caring Relationships as Contexts for School Engagement 43

- Stacy L. O'Farrell A Factor Analysis Exploring School Bonding and Related Constructs Among Upper Elementary Students 53
Gale M. Morrison

- Irwin Hyman Student Alienation Syndrome: A Paradigm for Understanding the Relation Between School Trauma and School Violence 73
Ian Cohen
Matthew Mahon

- Gale M. Morrison Changes in Latino Students' Perceptions of School Belonging Over Time: Impact of Language Proficiency, Self-Perceptions and Teacher Evaluations 87
Merith A. Cosden
Stacy L. O'Farrell
Emily Campos

- Michael J. Furlong Multiple Contexts of School Engagement: Moving Toward a Unifying Framework for Educational Research and Practice 99
Angela D. Whipple
Grace St. Jean
Jenne Simental
Alicia Soliz
Sandy Punthuna

General Articles

- Stephen E. Brock Digit Naming Speed Performance Among Children With Attention-Deficit/Hyperactivity Disorder 115
Catherine Christo

- Jeffrey S. Goldstein Absenteeism: A Review of the Literature and School Psychology's Role 127
Steven G. Little
K. Angeleque Akin-Little



The California School Psychologist Provides Valuable Information Regarding School Engagement, Youth Development, and School Success

Shane R. Jimerson
University of California, Santa Barbara

This volume of *The California School Psychologist* provides valuable information to enhance our understanding of the importance of school engagement in promoting youth development and school success. These articles inform contemporary professional practice in the field of school psychology, and also contribute to the foundation and future direction of research in the field of school psychology. Articles from previous volumes of *The California School Psychologist* are available on-line at www.education.ucsb.edu/school-psychology.

This volume includes the “special topic section” on “School Engagement, Youth Development, and School Success.” The Center for School-Based Youth Development at the University of California, Santa Barbara (UCSB) is sponsoring this special topic section of *The California School Psychologist*. Resources for this effort were made possible through a *Gevirtz Graduate School of Education - Funds for Excellence Grant* from Don and Marilyn Gevirtz. It is the mission of the UCSB Center for School-Based Youth Development to enhance school engagement for all students through strength-based assessment and targeted interventions designed to promote social and cognitive competence. This mission will be facilitated through research and development and by increasing the cadre of educators who are knowledgeable about and support a comprehensive and coordinated approach to student support services. Drs. Furlong, Jimerson, Morrison, and Cosden are the UCSB faculty collaborating to establish the Center for School-Based Youth Development. For additional information about the Center, you may visit their website at www.education.ucsb.edu/school-psychology.

The confluence of available literature suggests that school engagement, youth development, and school success are intertwined. Research indicates that school engagement is an important influence on developmental trajectories and educational success (e.g., school dropout, violence prevention, and promoting the well being of students). Amidst an era emphasizing “standards and accountability” in education it is important to recognize the interplay between socio-emotional, behavioral, and cognitive development as they influence academic success and learning. Promoting the social and cognitive competence of all students is essential in facilitating the academic success of students in schools. This issue of *The California School Psychologist* journal provides information addressing four broad areas of scholarship: a) an overview of conceptual considerations regarding “school engagement” and a synthesis of available literature, b) empirical investigation and analyses related to “school engagement,” c) practical application of this research, emphasizing the implications and strategies for practitioners, and d) an emphasis on incorporating this information into preparing future professionals.

This volume of *The California School Psychologist* offers numerous articles that address important aspects of school engagement, youth development, and school success, including; a review of definitions and measures, lessons learned about facilitating student engagement, an exploration of meaningful participation and caring relationships at school, a factor analysis of school bonding and related constructs, an introduction and overview of “student alienation syndrome” and implications for school violence, an investigation of Latino upper elementary students’ perceptions of school belonging, and an overview of a conceptual framework emphasizing the multiple contexts of school engagement. Additional articles in this volume address other important topics, including; an exploration of digit naming speed among students with Attention-Deficit/Hyperactivity Disorder (ADHD), and a review of research regarding absenteeism and implications for school psychologists.

The first article (Jimerson, Campos, & Greif, 2003) provides a review of definitions and measures to explore the construct of school engagement. This article addresses key questions such as, ‘What is school engagement, school bonding, and school attachment, and how are they measured?’ This synthesis of available literature is valuable in providing a basic understanding of school engagement, school bonding, and other related terms (e.g., school attachment, school commitment). This article delineates items used in previous research addressing school engagement and then classifies previous measures into five contexts: a) academic performance, b) classroom behavior, c) extracurricular involvement, d) interpersonal relationships, and e) school community. Based on their review of the extant literature, the authors suggest that school engagement is a multifaceted construct that includes affective, behavioral, and cognitive dimensions. The authors also highlight that conceptualizing school engagement as a multifaceted construct has implications for both research and practice.

The second article (Sinclair, Christenson, Lehr, & Reschly-Anderson, 2003) offers insights and lessons learned from several years of applied research focusing on student engagement, dropout prevention, and school completion. The authors begin with a summary of the theoretical constructs that guided the development of Check & Connect and describe the multiple applications of this targeted intervention. Roles of the key intervention personnel are delineated and seven core elements of the model are highlighted with particular emphasis on the importance of “persistence plus,” relationship building and individualized intervention. Based on their experiences with the implementation studies of the intervention, the authors also discuss numerous practical considerations for effective implementation. The insights offered may help educational professionals implement effective programs to positively influence the educational trajectory of youth for whom school completion is likely to be difficult.

The third article (Jennings, 2003) explores meaningful participation and caring relationships as contexts for school engagement. The author emphasizes the connections between models of school engagement, psychological needs, and strength-based assets. This article also includes the findings from a study examining the association between school environment factors (i.e., caring relationships and meaningful participation) and academic performance among seventh-grade students using the California Healthy Kids Survey that is being implemented in many schools across the state. The results of this study indicate that moderate levels of meaningful participation and caring peer relationships were each associated with academic achievement. The author suggests that home and school support warrant further consideration in future research examining school engagement.

The fourth article (O’Farrell & Morrison, 2003) reports the results of a statistical factor analysis exploring school bonding among students in grades four, five, and six. Recognizing that previous researchers have measured constructs such as school bonding, school engagement, school attachment, and school connectedness using similar items, the authors used selected items from such surveys to

examine the unique and shared aspects of these factors. The results indicate considerable overlap among measures of the various constructs investigated and also revealed a five-factor model. The authors highlight that this study is an important step in understanding how these constructs are interrelated, and discuss the implications for future research and practice.

The fifth article (Hyman, Cohen, & Mahon, 2003) provides an overview of a theoretical construct - Student Alienation Syndrome - and offers a paradigm for understanding the relation between school trauma and school violence. Highlighting that some children are victimized by peers and others at school, the authors emphasize that such unrecognized abuse may cause pervasive emotional, social, and academic problems. This article includes a description of the Student Alienation Trauma Survey (SATS) and the My Worst Experience Scale (MWES) and the authors suggest that these measures are psychometrically sound instruments to assess symptoms of Posttraumatic Stress Disorder (PTSD) and Student Alienation Syndrome (SAS) in children who have been victimized at school. An overview of a comprehensive treatment model for children with PTSD/SAS is also provided.

The sixth article (Morrison, Cosden, O'Farrell, & Campos, 2003) examines changes in Latino and Latina students' perceptions of school belonging between grades four and six. Using information from both students and teachers at the beginning and end of each academic year, the results indicated that there was a decrease in school belonging among English Language Learner, however, this was not evidenced among English proficient classmates. The results also indicated that perceptions of school belonging among students in fourth grade was associated with teacher evaluations, whereas, sixth-grade students' perceptions of school belonging was associated by peer self-concept. The authors highlight the importance of understanding the dynamics of school belonging when implementing prevention and intervention programs in the school context.

The seventh article (Furlong, Whipple, St. Jean, Simenthal, Soliz, & Punthuna, 2003) presents a brief overview of the school engagement literature and offers a conceptual framework emphasizing the multiple contexts of school engagement. This article also includes a discussion of psychological, educational, and developmental perspectives as related to school engagement. The authors propose four main contexts of school-based engagement, a) the students, b) peers, c) classroom, and d) the school environment. The authors also posit that all youth may benefit from school engagement, and suggest that the proposed framework may facilitate efforts to promote positive student outcomes.

The eighth article (Brock & Christo, 2003) examines digit naming speed performance among children with Attention-Deficit/Hyperactivity Disorder (ADHD). This study compared students with ADHD with matched peers without ADHD in grades four, five, and six. Students in both groups demonstrated similar word identification and word attack test scores. In contrast to prior research, children with ADHD were significantly slower at identifying numbers, compared to the children without ADHD. The authors review the methodological differences between the previously published research and the current study, highlighting that none of the previous studies included a matched pair design. In addition, prior research included children with various classification procedures and subtypes of ADHD, whereas the current study included children with inattentive symptoms, and excluded those with primarily hyperactive-impulsive symptoms. The authors also discuss implications for both practice and future research.

The ninth article (Goldstein, Little, & Akin-Little, 2003) reviews the literature on student absenteeism and discusses the role of school psychologists in addressing this salient problem. The authors highlight that poor student attendance is a pervasive problem that had numerous deleterious effects on the individual, the school, and society in general. The authors summarize existing literature and explore mediating factors, and then provide a review of interventions for improving student attendance at

school. Noting that punitive responses may be counter-productive in addressing absenteeism, the authors encourage school psychologists to work with administrators to develop proactive responses to decrease absenteeism. Considering the significance of problems associated with student absenteeism, this area warrants further attention from both researchers and practitioners.

The articles in this volume both individually and collectively provide an abundance of information that may be used by educational professionals working with children, families, and colleagues to enhance the academic success and promote positive developmental trajectories of youth. The convergence across the articles addressing school engagement is particularly noteworthy, for instance, each acknowledges the multifaceted nature of the construct and articulates the importance of facilitating school environments (e.g., relationships with peers and teachers, classrooms, activities and experiences) to enhance students' sense of belonging and active engagement. Each of the authors also emphasizes the dynamic and reciprocal influence between school engagement and academic success. This collection of articles warrants serious consideration by researchers, practitioners, and those involved with developing policies and legislation. *The California School Psychologist* provides valuable information regarding school engagement, youth development, and school success.

REFERENCES

- Brock, S. E., & Christo, C. (2003). Digit naming speed performance among children with Attention-Deficit/Hyperactivity Disorder. *The California School Psychologist, 8*, 115-125.
- Furlong, M., Whipple, A. D., St. Jean, G., Simental, J., Soliz, A., & Punthuna, S. (2003). Multiple contexts of school engagement: Moving toward a unifying framework for educational research and practice. *The California School Psychologist, 8*, 99-113.
- Goldstein, J. S., Little, S. G., & Akin-Little, K. A. (2003). Absenteeism: A review of the literature and school psychology's role. *The California School Psychologist, 8*, 127-139.
- Hyman, I., Cohen, I., & Mahon, M. (2003). Student Alienation Syndrome: A paradigm for understanding the relation between school trauma and school violence. *The California School Psychologist, 8*, 73-86.
- Jennings, G. (2003). An exploration of meaningful participation and caring relationships as contexts for school engagement. *The California School Psychologist, 8*, 43-52.
- Jimerson, S. R., Campos, E., & Greif, J. (2003). Toward an understanding of definitions and measures of school engagement and related terms. *The California School Psychologist, 8*, 7-27.
- Morrison, G. M., Cosden, M. A., O'Farrell, S. L., & Campos, E. (2003). Changes in Latino students' perceptions of school belonging over time: Impact of language proficiency, self-perceptions and teacher evaluations. *The California School Psychologist, 8*, 87-98.
- O'Farrell, S. L., & Morrison, G. M. (2003). A factor analysis exploring school bonding and related constructs among upper elementary students. *The California School Psychologist, 8*, 53-72.
- Sinclair, M. F., Christenson, S. L., Lehr, C. A., & Reschly-Anderson A. (2003). Facilitating student engagement: Lessons learned from Check & Connect longitudinal studies. *The California School Psychologist, 8*, 29-41.

Toward an Understanding of Definitions and Measures of School Engagement and Related Terms

Shane R. Jimerson, Emily Campos, and Jennifer L. Greif
University of California, Santa Barbara

This article provides an overview of definitions and measures related to school engagement. The intent herein, is to explore the construct and measurement of school engagement and related terms and provide a summary of previous literature, in an effort to offer a foundation to advance related scholarship and practice. Previous articles exploring school engagement, school bonding, and other associated terms (e.g., school attachment, school commitment, motivation) include a variety of definitions and measures. Items used in previous research addressing school engagement and related terms were classified into five contexts: a) academic performance, b) classroom behavior, c) extracurricular involvement, d) interpersonal relationships, and e) school community. Based on this review, it is suggested that school engagement is a multifaceted construct that includes affective, behavioral, and cognitive dimensions. Conceptualizing school engagement as a multifaceted construct has implications for both research and practice.

Keywords: School engagement, Assessment, Measures, Definitions

What is school engagement? What is school bonding? What is school attachment? Are these terms related? How are they measured? These are the questions that prompted the following review of literature addressing school engagement, school bonding, and other related terms. While there appears to be a plethora of studies emphasizing the importance of school engagement there is a paucity of consensus among researchers regarding what school engagement “is” (e.g., how it is defined and how it is measured). Understanding the terms and associated measures is fundamental in advancing research and practice related to school engagement. Following this review and summary of extant literature, a multifaceted conceptualization of school engagement is delineated.

In reviewing literature to examine the various definitions of school engagement, school bonding, and related terms, an effort was made to extract the elements characterizing these constructs. To facilitate the understanding of the various terms (and related measures), three characteristic elements are discussed below and indicated in Table 1 (See Appendix). The dimensions that emerged through the review are affective, behavioral, and cognitive. The *affective* dimension includes students’ feelings about the school, teachers, and/or peers (e.g., positive feelings toward teachers and other students. The *behavioral* dimension includes students’ observable actions or performance, such as participation in extracurricular activities (e.g., sports, clubs), completion of homework, as well as grades, grade point averages, and scores on achievement tests. The *cognitive* dimension includes students’ perceptions and beliefs related to self, school, teachers, and other students (e.g., self-efficacy, motivation, perceiving that teachers or peers care, aspirations, expectations). While there are instances when these dimensions overlap, each is helpful in considering the multifaceted nature of school engagement. The review

Correspondence and requests for reprints should be sent to Shane Jimerson, Ph.D.; University of California at Santa Barbara; Gevirtz Graduate School of Education; Counseling, Clinical, and School Psychology; Child and Adolescent Development; 2208 Phelps Hall; Santa Barbara, CA 93106-9490 or Jimerson@education.ucsb.edu. All authors contributed equally to the development and writing of this article.

process examining each dimension for every article included in this summary focused on both the explicit definitions provided by the authors of each manuscript and the items used to measure the terms found in the articles. Each of the authors reviewed the various classifications and any discrepancies were resolved through discussion and consensus. Toward the end of the process, while exploring the internet, it was found that the Research Network on Successful Pathways Through Middle Childhood (University of Michigan, 2003) has also emphasized these three elements as related to school engagement (attending particularly to the classroom and instructional contexts). Each of these dimensions is included in the summary table to facilitate understanding of the various terms.

DEFINING SCHOOL ENGAGEMENT

This section explores definitions of school engagement, school bonding, and other related terms. Of the 45 articles examined in this review, 31 did not delineate an explicit definition of the terms. Often the terms were best understood by examining the specific measures and items reported in each article. Thus, the discussion of definitions and measures is not completely independent. Table 1 includes a summary of definitions, measures, and dimensions for each article.

School Engagement

A popular definition suggested in previous research defines engagement in school "...as having both a behavioral component, termed participation, and an emotional component, termed identification" (Finn & Voelkl, 1993; p. 249). However, school engagement has been primarily measured by observable behaviors directly related to academic effort and achievement (e.g., Finn & Rock, 1997; Johnson, Crosnoe, & Elder, 2001; Sinclair, Christenson, Evelo, & Hurley, 1998). Indicators of engagement that emerge relatively consistently across the literature include participation in school-related activities, achievement of high grades, amount of time spent on homework, and rate of homework completion. In addition to the behaviors listed above, some researchers include measurements of delinquency, truancy, or misbehavior in their investigation of engagement (e.g., Bullis & Yovanoff, 2002; Finn & Rock, 1997; Sinclair et al., 2001). As evidenced by these measurements, definitions of engagement rarely include affective and cognitive elements (see Table 1). This trend suggests a behavioral focus in the way engagement has traditionally been investigated in the literature.

School Bonding

Despite the growing body of research that demonstrates the important role of school bonding in mitigating the risk of dropout and delinquency, few articles actually define this construct. Instead, the literature provides lists of items or measurements that are associated with school bonding. A popular notion regarding school bonding is that it reflects the degree of closeness or attachment to teachers and commitment to conventional school goals (Eggert et al., 1994). However, there are assorted variations. For example, some researchers include the achievement of good grades as an indicator of school bonding (e.g., Cernkovich & Giordano, 1992), while others ignore grades and focus only on feelings of commitment or attachment (e.g., Chung, Hill, Hawkins, Gilchrist, & Nagin, 2002; Murray & Greenberg, 2001). Thus far, there does not appear to be an accepted working definition of school bonding. However, the combined literature on school bonding reveals several consistent patterns in the conceptualization of this construct.

The reoccurring theme in almost all descriptions of school bonding is that of "attachment." Specifically, the research focuses on attachment to school, teachers, or classrooms (e.g., Cernkovich & Giordano, 1992; Chung et al., 2002; Eggert et al., 1994; Murray & Greenberg, 2001). Generally, the degree of student attachment to one or all of these items is determined by the student's feelings about

the school, teachers, or classroom environment. Specifically, students indicate how well they like their various classroom teachers, how much they look forward to going to school, and how much they can trust their teachers (e.g., Battin-Pearson et al., 2000; Chung et al., 2002; Murray & Greenberg, 2001). The consistency with which attachment is identified as a component of school bonding combined with its frequent connection to students' feelings, suggests that emotion or affect may be a defining feature of school bonding.

Commitment is another aspect that is frequently invoked in articles addressing school bonding. Firestone and Rosenblum (1988) identify two dimensions of student commitment: commitment to learning described as "taking school seriously," and commitment to place described as "participating in extracurricular activities." The commitment aspect appears to reflect both behavioral and cognitive dimensions. For example, measurements of school commitment include items that ask students if they do extra work for class or continue to work until their assignments are complete (Chung et al., 2002). Other measurements include items that ask about a student's future aspirations and the reasons for wanting to succeed in school (Urduan, 1997).

Several researchers also include a cognitive element in their descriptions of bonding. For example, Cernkovich and Giordano (1992) identify "perceived opportunity" as one of seven dimensions assumed to comprise school bonding. The authors measure this construct with items such as "I'll never have as much opportunity to succeed as kids from other neighborhoods" and "my chances of getting ahead and being successful are not very good." Although this particular study did not identify "perceived opportunity" as a strong predictor of bonding, it is suggested that a child's perceptions of his or her teachers or peers may have an effect given the strong link observed between attachment and bonding.

Other Terms Related to School Engagement

Other terms that are related to the discussion of school engagement include belonging, school community, affiliation, school membership, motivation, and school attachment. Each of these terms represents a subcategory of either school bonding or school engagement. For example, belonging, affiliation, and school membership are frequently characterized by feelings of connectedness to school or community, or feelings of inclusion and support in the school social environment (e.g., Firestone & Rosenblum, 1988; Goodenow, 1993; Johnson, Crosnoe, & Elder, 2001). Similar to school bonding, these terms include affective and cognitive dimensions in their definitions. School community involves a more reciprocal relationship between student and community in which the needs of both are satisfied (Osterman, 2000). Although the description of school community is somewhat behavioral in nature, it does not include an academic orientation. Thus, school community contains features similar to both school bonding and school engagement descriptions in that both behaviors and relationships are incorporated. Motivation involves beliefs of competence and perceptions of teacher caring (Fulk, Brigham, & Lohman, 1998; Wentzel, 1997). These beliefs and perceptions indicate an underlying cognitive dimension. Definitions of engagement typically include behaviors specific to homework completion or academic achievement, while descriptions of bonding typically include feelings of attachment or perceptions of future success. Additionally, descriptions of more specific terms such as commitment or membership include other variations of behavioral, affective, and cognitive elements.

Although the literature demonstrates a pattern in the way school engagement is conceptualized, there is still some ambiguity as to what exactly comprises school engagement. Considering the variation and inconsistency in definitions of school engagement, school bonding, and related terms, it is valuable to explore the specific items used to measure these constructs. This is important, as the definitions and assessments of these terms are inherently linked. Several of the studies listed in Table

I have not included specific definitions of school engagement or school bonding, and thus the definition of these terms can best be derived by exploring the specific items used to measure these constructs.

MEASURING SCHOOL ENGAGEMENT

In addition to the disparity in definitions of school engagement, there are also differences in the ways these constructs have been measured. A review of empirical studies of school engagement suggests that there are many variations in the types of items used to measure school engagement, the sources from which information is generated (e.g., students, teachers, school records), and the format of assessments (e.g., survey, questionnaire). Thus, it is important to examine the specific items used to measure school engagement and related constructs. The items used in previous research addressing school engagement and related terms, were classified into five contexts; a) academic performance, b) classroom behavior, c) extracurricular involvement, d) interpersonal relationships, and e) school community. These five areas reflect the diversity of the items used in the 45 studies reviewed. The manuscripts reviewed often used items that crossed categories, and tapped into multiple contexts.

Academic Performance. The majority of items that purport to measure school engagement inquire about academic performance. Items ask for student GPA (e.g., Cernkovich & Giordano, 1992; Wentzel, 1997), achievement test scores (e.g., Manlove, 1998), and hours spent, effort extended, or completion of homework (e.g., Finn & Rock, 1997; Johnson, et al., 2001). In many instances, this information is gathered by surveying teachers or school records, in addition to asking for youth self-report.

Classroom Behaviors. Questions addressing classroom behavior include items asking teachers or students to comment on whether the student is attentive (e.g., Finn & Rock, 1997; Johnson, Crosnoe, & Elder, 2001), or disruptive (e.g., Finn & Rock, 1997; Greenwood, Horton, & Utley, 2002), works hard (e.g., Battin-Pearson et al, 2000; Chung et al., 2002) and is present in class (often by obtaining records of absenteeism from school; e.g., Johnson et al., 2001; Sinclair, et al., 1998). The extent to which these academic and classroom components were integral to the assessment of school engagement varied. For example, one study judged participants to be engaged if they were employed, or enrolled in a school program, and were not recently arrested or part of the criminal justice system (Bullis & Yovanoff, 2002). However, most studies asked for this information in conjunction with a variety of other questions.

Extracurricular Involvement. Several studies have used involvement in extracurricular activities as an indicator of school engagement. Most often, information on extracurricular involvement was obtained through interviews or self-report questionnaires completed by students. For example, one team of researchers measured school engagement by counting the number of activities in which students participated, as determined by listings in the school yearbook (Mahoney & Cairns, 1997). Other surveys asked students about the frequency or quantity of their participation in extracurricular activities and sports (e.g., Cernkovich & Giordano, 1992; Finn & Rock, 1997), as well as leadership positions (Scales, Benson, Leffert, & Blyth, 2000).

Interpersonal Relationships. These items were characterized by inquiries about students' relationships with teachers and peers. In a youth self-report format, these items asked about liking of teachers (e.g., Battin-Pearson et al., 2000; Murray & Greenberg, 2001), openness to sharing problems with teachers (e.g., Battistich et al., 1995), whether teachers were caring (e.g., Wentzel, 1997), respectful (e.g., Goodenow, 1993), approving (e.g., Greenwood, et al. 2002), and encouraging (e.g., Eggert et al., 1994), among others. Questions related to peer relationships asked students whether they felt that students worked together (e.g., Battistich, et al., 1995), took their opinions seriously (e.g., Goodenow, 1993), and were supportive (e.g., Wentzel, 1998).

School Community. The final category of items asks students general questions about their feelings toward school and the school community. The most common statements that fall into this category are “I like school” and “Most mornings I look forward to going to school” (e.g., Battin-Pearson et al., 2000; Hawkins et al., 2001). The Psychological Sense of School Measurement scale (PSSM, Goodenow, 1993) has been widely employed and asks youth to comment on their feelings of belonging. Similarly, several scales ask specifically if youth feel that they belong or are a part of the school (e.g., Roeser, Midgley, & Urdan, 1996; Johnson et al., 2001). Other scales ask questions about the school community in general and a broad sense of caring or support (e.g., Battistich et al., 1995).

Items in the academic performance, classroom behaviors, and extracurricular involvement categories focus primarily on observable behaviors and are likely to be assessed through teacher report and school records, in addition to youth self-report. By comparison, items that comprise the interpersonal relationships and school community categories tap into more of an affective component, and are almost always completed by youth in the form of interviews or surveys.

In addition, some items appeared to assess “engagement” while other items seemed to measure “lack of disengagement.” Items that measure “engagement” request information based on an active definition of engagement. Items such as “I feel like a real part of (name of school),” (Goodenow, 1993) “Students in my class work together to solve problems,” (Battistich et al., 1995) or “I feel as if I really don’t belong at school” (Cernkovich & Giordano, 1992) measure feelings of engagement. In contrast, items measuring a “lack of disengagement” ask students and teachers to comment on an absence of disengaged or disruptive behavior, rather than the presence of engaged behavior. For example, items such as “In the past school year, how many times has the student had trouble paying attention” (Johnson et al., 2001), “Most of the topics we study in class can’t end soon enough to suit me” (Wentzel & Asher, 1995) and measures of absenteeism (e.g., Sinclair et al., 1998; Finn & Rock, 1997) seem to tap into disengagement, rather than engagement. It is important to clarify the measurement of terms, as engagement and lack of disengagement may not be dichotomous. In other words, measures examining a lack of disengagement do not necessarily reflect a student’s engagement.

The variation in assessment items demonstrates the diversity of conceptualizations of the construct of school engagement. While many focus on observable academic behavior and achievement, others take a more expansive approach including affective and cognitive components. Students may exhibit different profiles of responses to the five contexts listed above, depending on individual strengths, socio-cultural backgrounds, and personal interests. In addition, definitions of school engagement and school bonding sometimes do not match with the actual items that are used to measure the construct. For example, the item “I like school” has been used in the studies represented in Table 1 to measure school attachment, school bonding, satisfaction with school, and school connectedness. Even when there are different conceptual definitions of these terms, it is important to note that they are sometimes assessed with the same items. Thus, it is important to consider the specific items used to measure school engagement and related terms. As reflected in previous articles, there are multiple contexts to consider. Both the types of questions and the sources of information warrant further consideration when deciding upon a measure of school engagement.

DISCUSSION

Systematically examining the affective, behavioral, and cognitive dimensions of school engagement and related terms illustrates that the use of these terms has varied. As educational professionals aim to promote “school engagement” in an effort to enhance student outcomes, it is important that a shared definition is established and appropriate measures are clarified. Thus, based on this review of the literature, it is suggested that school engagement is a multifaceted construct that includes affective,

behavioral, and cognitive dimensions. Furthermore, in measuring this multifaceted construct the primary contexts include: a) academic performance, b) classroom behavior, c) extracurricular involvement, d) interpersonal relationships, and e) school community. Further research exploring these three dimensions and five contexts will advance our understanding of school engagement.

In addition, future efforts should consider developmental and socio-cultural considerations. While none of the definitions or measures reviewed in this paper distinguished between children and adolescents of different ages, studying school engagement with children in elementary school is likely to differ from work with adolescents. The absence of discussion regarding socio-cultural variables is also notable. Familial and cultural values will likely influence school engagement among diverse groups. While it is beyond the scope of this review of definitions and measures, further research may examine how age, socio-cultural, and familial variables interact with school engagement. For instance, experience indicates that in some communities, peer acceptance may come at the expense of noticeable engagement in academics. Furthermore, measures that include extracurricular involvement as a key variable may be biased against students who work after school or attend schools that do not provide ample extracurricular opportunities.

It is hoped that this systematic review of previous literature addressing school engagement and related terms, will provide a foundation and impetus for future efforts. Further understanding of school engagement and related terms will inform professional efforts to facilitate school engagement and promote school success. Through clarifying the dimensions of school engagement and the multiple contexts and considerations, school psychologists and other professionals will be better able to communicate about efforts to promote school engagement. As research continues to examine the processes and efficacy of interventions aimed at enhancing school engagement, clarification regarding the definitions and measures is invaluable in advancing our understanding and knowledge. Thus, establishing a shared definition of school engagement is important for both scientists and practitioners.

Endnote: The literature review process included a systematic search of electronic databases including PsycInfo and ERIC. Search terms used included school engagement, school bonding, school attachment, and related terms. From those articles revealed in this process, only those addressing k-12 schools were selected for review. Those articles that included a measure of school engagement and related terms were used in this review.

REFERENCES

- Abbott, R. D., O'Donnell, J., Hawkins, J. D., Hill, K. G., Kosterman, R., & Catalano, R. F. (1998). Changing teaching practices to promote achievement and bonding to school. *American Journal of Orthopsychiatry*, *68*, 542-552.
- Anderman, L. H., & Anderman, E. M. (1999). Social predictors of changes in students' achievement goal orientations. *Contemporary Educational Psychology*, *25*, 21-37.
- Anderson, B. J., Holmes, M. D., & Ostresh, E. (1999). Male and female delinquents' attachments and effects of attachments on severity of self-reported delinquency. *Criminal Justice and Behavior*, *26*, 435-452.
- Battin-Pearson, S., Newcomb, M. D., Abbott, R. D., Hill, K. G., Catalano, R. F., & Hawkins, J. D. (2000). Predictors of early high school dropout: A test of five theories. *Journal of Educational Psychology*, *92*, 568-582.
- Battistich, V., Solomon, D., Kim, D., Watson, M., & Schaps, E. (1995). Schools as communities, poverty levels of student populations, and students' attitudes, motives, and performance: A multilevel analysis. *American Educational Research Journal*, *32*, 627-658.
- Bullis, M., & Yovanoff, P. (2002). Those who do not return: Correlates of the work and school engagement of formerly incarcerated youth who remain in the community. *Journal of Emotional and Behavioral Disorders*, *10*, 66-78.
- Cernkovich, S. A., & Giordano, P. C. (1992). School bonding, race, and delinquency. *Criminology*, *30*, 261-291.
- Chung, I., Hill, K. G., Hawkins, J. D., Gilchrist, L. D., & Nagin, D. S. (2002). Childhood predictors of offense trajectories. *Journal of Research in Crime and Delinquency*, *39*, 60-90.

- Connell, J. P., Spencer, M. B., & Aber, J. L. (1994). Educational risk and resilience in African-American youth: Context, self, action, and outcomes in school. *Child Development, 65*, 493-506.
- Eggert, L. L., Thompson, E. A., Herting, J. R., Nicholas, L. J., & Dicker, B. G. (1994). Preventing adolescent drug abuse and high school dropout through an intensive school-based social network development program. *American Journal of Health Promotion, 8*, 202-215.
- Ellickson, P. L., & McGuigan, K. A., (2000). Early predictors of adolescent violence. *American Journal of Public Health, 90*, 566-572.
- Ellickson, P. L., & Morton, S. C. (1999). Identifying adolescents at risk for hard drug use: Racial/ethnic variations. *Journal of Adolescent Health, 25*, 382-395.
- Finn, J. D., & Rock, D. A. (1997). Academic success among students at risk for school failure. *Journal of Applied Psychology, 82* (2), 221-261.
- Finn, J. D., & Voelkl, K. E. (1993). School characteristics related to student engagement. *Journal of Negro Education, 62*, 249-268.
- Firestone, W. A., & Rosenblum, S. (1988). Building commitment in urban high schools. *Educational Evaluation and Policy Analysis, 10*, 285-299.
- Fulk, B. M., Brigham, F. J., Lohman, D. A. (1998). Motivation and self-regulation: A comparison of students with learning and behavior problems. *Remedial and Special Education, 19*, 300-309.
- Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools, 30*, 79-90.
- Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *Journal of Experimental Education, 62*, 60-71.
- Greenwood, C. R., Horton, B. T., & Utley, C. A. (2002). Academic engagement: Current perspectives on research and practice. *School Psychology Review, 31*, 328-349.
- Gutman, L. M., & Midgley, C. (2000). The role of protective factors in supporting the academic achievement of poor African American students during the middle school transition. *Journal of Youth and Adolescence, 29*, 223-248.
- Hawkins, J. D., Guo, J., Hill, K. G., Battin-Pearson, S., & Abbott, R. D. (2001). Long-term effects of the Seattle Social Developmental Intervention on school bonding trajectories. *Applied Developmental Science, 5*, 225-236.
- Heaven, P. C. L., Mak, A., Barry, J., & Ciarrochi, J. (2002). Personality and family influences on adolescent attitudes to school and self-rated academic performance. *Personality and Individual Differences, 32*, 453-462.
- Hoppe, M. J., Wells, E. A., Haggerty, K. P., Simpson, E. E., Gainey, R. R., & Catalano, R. F. (1998). Bonding in a high-risk and a general sample of children: Comparison of measures of attachment and their relationship to smoking and drinking. *Journal of Youth and Adolescence, 27*, 59-81.
- Jessor, R., Turbin, M. S., & Costa, F. M. (1998). Protective factors in adolescent health behavior. *Journal of Personality and Social Psychology, 75*, 788-800.
- Johnson, M. K., Crosnoe, R., & Elder, G. H., Jr. (2001). Students' attachment and academic engagement: The role of race and ethnicity. *Sociology of Education, 74*, 318-340.
- Joseph, J. (2002). School factors and delinquency: A study of African American youths. *Journal of Black Studies, 26*, 340-355.
- Mahoney, J. L., & Cairns, R. B. (1997). Do extracurricular activities protect against early school dropout? *Developmental Psychology, 33*, 241-253.
- Manlove, J. (1998). The influence of high school dropout and school disengagement on the risk of school-age pregnancy. *Journal of Research on Adolescence, 8*, 187-220.
- McNamara, K. (2000). Outcomes associated with service involvement among disengaged youth. *Journal of Drug Education, 30*, 229-245.
- Mouton, S. G., Hawkins, J., McPherson, R. H., & Copley, J. (1996). School attachment: Perspectives of low-attached high school students. *Educational Psychology, 16*, 297-304.
- Murdock, T. B. (1999). The social context of risk: Status and motivational predictors of alienation in middle school. *Journal of Educational Psychology, 91*, 62-75.
- Murray, C., & Greenberg, M. T. (2001). Relationships with teachers and bonds with school: Social emotional adjustment correlates for children with and without disabilities. *Psychology in the Schools, 38*, 25-41.
- Neumark-Sztainer, D., Story, M., French, S. A., & Resnick, M. D. (1997). Psychosocial correlates of health compromising behaviors among adolescents. *Health Education Research, 12*, 37-52.
- O'Donnell, J., Hawkins, J. D., & Abbott, R. D. (1995). Predicting serious delinquency and substance use among aggressive boys. *Journal of Consulting and Clinical Psychology, 63*, 529-537.
- Osterman, K. F. (2000). Students' need for belonging in the school community. *Review of Educational Research, 70*, 323-367.

- Pierson, L. H., & Connell, J. P. (1992). Effect of grade retention on self-system processes, school engagement, and academic performance. *Journal of Educational Psychology, 84*, 300-307.
- Research Network on Successful Pathways through Middle Childhood. (2003). Retrieved January 15, 2003, from <http://www.middlechildhood.org/initiatives/engagement.htm>
- Robertson, L. M., Harding, M. S., & Morrison, G. M. (1998). A comparison of risk and resilience indicators among Latino/a students: Differences between students identified as at-risk, learning disabled, speech impaired, and not at-risk. *Education and Treatment of Children, 21*, 333-353.
- Roeser, R. W., Midgley, C., & Urdan, T. C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of Educational Psychology, 88*, 408-422.
- Rumberger, R. W., & Larson, K. A. (1998). Student mobility and increased risk of high school dropout. *American Journal of Education, 107*, 1-35.
- Ryan, A. M. (2000). Peer groups as a context for the socialization of adolescents' motivation, engagement, and achievement in school. *Educational Psychologist, 35*, 101-111.
- Scales, P. C., Benson, P. L., Leffert, N., & Blyth, D. A. (2000). Contribution of developmental assets to the prediction of thriving among adolescents. *Applied Developmental Science, 4*, 27-46.
- Simons-Morton, B. G., Crump, A. D., Haynie, D. L., & Saylor, K. E. (1999). Student-school bonding and adolescent problem behavior. *Health Education Research, 14*, 99-107.
- Sinclair, M. F., Christenson, S. L., Evelo, D. L., & Hurley, C. M. (1998). Dropout prevention for youth with disabilities: Efficacy of a sustained school engagement procedure. *Exceptional Children, 65*, 7-21.
- Sinclair, M. F., Hurley, C. M., Evelo, D. L., Christenson, S. L., & Thurlow, M. L. (2001). Making connections that keep students coming to school. In R. Algozzine, & P. Kay (Eds.), *Preventing problem behaviors: A handbook of successful prevention strategies* (pp. 162-182). Thousand Oaks, CA: Corwin Press.
- Skinner, E. A., Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology, 85*, 571-581.
- Urdan, T. C. (1997). Examining the relations among early adolescent students' goals and friends' orientation toward effort and achievement in school. *Contemporary Educational Psychology, 22*, 165-191.
- Wentzel, K. R. (1997). Student motivation in middle school: The role of perceived pedagogical caring. *Journal of Educational Psychology, 89*, 411-419.
- Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology, 90*, 202-209.
- Wentzel, K. R., & Asher, S. R. (1995). The academic lives of neglected, rejected, popular, and controversial children. *Child Development, 66*, 754-763.

Appendix. Table 1.

Summary of each study reviewed, including the authors, year of publication, term used, codes indicating whether Affective, Cognitive, and Behavioral (A/B/C) dimensions were included, and the definition and measurement used. All measures are youth self-report, unless otherwise indicated.

Article (Authors / Year)	Term(s) Used	A/B/C	Definition/ Measurement
Abbott et al. (1998)	Bonding to school; Bonding to prosocial peers	A	Definition not available. Positive social bonding described as attachment to school, commitment to educational pursuits, and belief in the fairness of school rules. Level of bonding is determined by level of opportunity for active involvement or participation available in school, skills the student applies in participating in school, and recognition provided by school for student's behavior: (a) <i>bonding to school</i> - items assessing both attachment and commitment "I do extra work on my own in class" "I like school." (only sample items available) (b) <i>attachment to prosocial peers</i> "Does this person try to do well at school?" "Do you want to be the kind of person this person is?" "How often do you see this person?"
Anderman & Anderman (1999)	School belonging	A, C	School belonging defined as measured. Measured by Goodenow's PSSM. Used Goodenow's PSSM Scale (See Goodenow, 1993, below).
Anderson, Holmes, & Ostresh (1999)	Attachment to school	A, C	Attachment defined as affection and emotion an individual holds for the social institutions in his or her life. Attachment includes three dimensions: bonds to parents, peers, and school. (Taken from Hirschi's model, 1969). (a) <i>Attachment to school</i> - Hirschi's original items, modified slightly (four items) "In general, did you like or dislike school?" "How important was getting good grades to you personally?" "Did you care what your teachers thought of you?" and "How many of your teachers seemed to care about how well you did in school?" (b) <i>Attachment to peers</i> "Did you enjoy hanging around with your friends?" (c) <i>Attitude towards school</i> "It is none of the school's business if a student wants to smoke outside of the classroom" "Teachers pick on me" "The things I learn in school help me to understand what is going on around me" "Teachers understand student" "Teachers just want you to be quiet" "Most teachers enjoy teaching" "Teachers care most about the students who are going to college."

Appendix (continued)

Battin-Pearson et al. (2000)	School bonding	A, B	School bonding defined as measured. Low school bonding (a) <i>low commitment to school</i> : "When I have an assignment to do, I keep working on it until it is finished" "I do extra work on my own in class" (b) <i>low attachment to teachers</i> : "I like my math teacher this year" "I like my language arts or English teacher this year" "I like my social studies teacher this year" (c) <i>low attachment to school</i> : "I like school" "Most mornings I look forward to going to school" "I like my classes this year."
Battistich, Solomon, Kim, Watson, Schaps (1995)	Community	A, B, C	Definition not available. Experience of community exists when needs for belonging, autonomy, and competence are met within community. (a) <i>caring and supportive interpersonal relationships in the classroom</i> "Students in my class work together to solve problems" "My class is like a family" "When I am having trouble with my schoolwork, at least one of my classmates will try to help" (b) <i>caring and supportive relationships throughout the school</i> "People care about each other in this school" "Students in this school help each other, even if they are not friends" "I feel that I can talk to the teachers in this school about things that are bothering me" (c) <i>student autonomy and influence on classroom norm setting and decision making</i> "The teacher lets me choose what I will work on" "In my class the teachers and students decide together what the rules will be" (only sample items available)
Bullis & Yovanoff (2002)	School engagement	B	School engagement defined as measured. In this study, a participant was judged to be engaged if she or he was employed, or enrolled in a school program, or working and going to school, and not arrested or just placed back into the youth or adult criminal justice system.
Cernkovich & Giordano (1992)	School bonding	A, B, C	School bonding defined by high degrees of attachment to school and teachers, high grades, high aspirations and commitment to future, and involvement in school-related activities such as homework, athletic teams, clubs. (a) <i>school attachment</i> : "I feel as if I really don't belong at school" "I wish I could drop out of school" (b) <i>attachment to teachers</i> : "Most of my teachers treat me fairly" "I like my

Appendix (continued)

teachers” (c) *school commitment*: “How many hours a week do you usually spend doing homework?” “What grades do you usually get in school?” “How far would you like to go in school?” “How far do you think you will go in school?” “Getting good grades is not important to me at all” “I try hard in school” “School work is very important” “Homework is a waste of time” (d) *school involvement*: “How many days a week (outside of class time) do you spend on athletic teams?” “Attending athletic events, plays, or school dances?” “On honor society activities?” “On newspaper/ yearbook activities” “On music/ band activities” “On student government?” (e) *perceived opportunity*: “I’ll never have as much opportunity to succeed as kids from other neighborhoods” “My chances of getting ahead and being successful are not very good” (f) *perceived risk of arrest*: “If you were arrested for something how likely would it be to hurt your chances of going as far as you would like in school?” “If you were arrested for something how likely would it be to hurt your chances of getting the kind of job you want?” (g) *parental communication*: “How often do you talk with your parents about problems you have at school?” “How often do you talk with your parents about how well you get along with your teachers?” “How often do you talk to your parents about your job plans for the future?” “My parents often ask me about what I am doing in school.”

Chung, Hill, Hawkins, School bonding **A, B**
 Gilchrist, & Nagin
 (2002)

School bonding defined as measured. School bonding comprised of commitment and attachment to school.

(a) *school commitment*: “Do extra work for class” “Keep working until work was finished when an assignment was due” (b) *school attachment*: “I like my teacher this year” “Most mornings I look forward to going to school” “I like school” “I like my class this year”

Connell, Spencer, & Engagement **A, B**
 Aber (1994)

Definition not available. Individual’s beliefs about him/herself in interpersonal context leads to either engagement or disaffection.

(a) *behavioral engagement*: “paying attention” “doing schoolwork” “putting out effort” “turning work in on time” (b) *emotional engagement*: “bored” “happy” (only sample items available).

Appendix (continued)

Eggert et al., (1994)	School bonding	A	School bonding defined as attachment to teachers and commitment to conventional school goals. (a) <i>perceptions of teacher support</i> "My teacher encouraged and supported me" "My teacher was someone I could count on to help me" "My teacher offered useful points of view about topics we discussed"
Ellickson & McGuigan (2000)	School bonding	B	Definition not available. (a) poor grades (b) number of elementary schools attended
Ellickson & Morton (1999)	School bonding	B	School bonding defined as measured. (a) <i>poor school performance</i> : "poor grades - defined as grades of mostly C or below"
Finn & Roek (1997)	School engagement	B	School engagement defined as measured. (a) <i>student engagement reported by teacher</i> : "Ratings of whether student works hard for good grades" "Frequency with which student is absent from class or arrives late" "Extent to which student completes homework, is attentive in class, and is not disruptive" (b) <i>student engagement reported by student</i> : "How often student missed school, cut class, and/or arrived late" "Frequency student got into fights, trouble, or parents were contact for behavior problems" "Frequency student arrived at school prepared for class" "Total amount of homework completed per week in and out of school" "Number of school-based athletic activities in which student participated" "Number of academically oriented extracurricular activities (e.g., band or academic clubs)" (actual items not available)
Finn & Voelkl (1993)	School engagement	A, B, C	School engagement defined as having behavioral component (participation) and emotional component (identification). (a) <i>student engagement reported by teacher</i> : "Whether youngster was frequently absent from class or tardy" "Whether a student rarely completed homework, was inattentive, and/or frequently disruptive in class" (b) <i>student engagement reported by student</i> : "Number of times they missed school, skipped classes, and/or arrived late" "Number of times parents were conducted about attendance problems" "Reports of the number of times they came to

Appendix (continued)

class unprepared” “Number of times they were sent to the principal’s office for misbehaving, whether their parents had received warnings about their behavior” “Whether they had gotten into a fight with another student” (c) *school community reported by student*: “Whether they got along well with teachers at their schools” “Whether there was ‘real school spirit’” “Whether teachers were interested in students, praised students’ efforts, and listened to what they said” “Whether students felt ‘put down’ by their teachers” (actual items not available)

Firestone & Rosenblum (1988) Student commitment **A, C**
Student commitment defined as commitment to learning (take school seriously) and commitment to the place (can include participating in extracurricular activities, spending time with others).
 (a) *open ended interviews*: “What kinds of things make students think about leaving this school?” “What kinds of things make them think about staying?” “What things make you feel that you have had a good day in this school?” “What things make you feel that you have had a bad day?” (only sample items available).

Goodenow (1993) School belonging **A, C**
School bonding defined as the extent to which students feel personally accepted, respected, included, and supported by others in the school social environment.
 (a) *The Psychological Sense of School Membership (PSSM) Scale*: “I feel like a real part of (name of school)” “People here notice when I’m good at something” “It is hard for people like me to be accepted here” “Other students in this school take my opinions seriously” “Most teachers at (name of school) are interested in me” “Sometimes I feel as if I don’t belong here” “There’s at least one teacher or other adult in this school I can talk if I have a problem” “People at this school are friendly to me” “Teachers here are not interested in people like me” “I am included in lots of activities at (name of school)” “I am treated with as much respect as other students” “I feel very different from most other students here” “I can really be myself at this school” “The teachers here respect me” “People here know I can do good work” “I wish I were in a different school” “I feel proud to belong to (name of school)” “Other students here like me the way I am.”

Appendix (continued)

Goodenow & Grady (1993)	School belonging	A, C	The extent to which students feel personally accepted, included, and supported by others, especially teachers and other adults in the school social environments. School belonging measured by Psychological Sense of School Membership Scale (see Goodenow, 1993, above)
Greenwood, Horton, & Utley (2002)	Academic engagement	B	Academic engagement defined as measured. Classroom observations measured with Mainstream Version of the Code for Instructional Structure and Student Academic Response (MS-CISSAR): (a) <i>students</i> "academic responding (e.g., writing, reading aloud, silent reading)" "task management (e.g., attention, raised hand)" "inappropriate behavior (e.g., disrupt, look around)" (b) <i>ecology</i> "setting (e.g., regular classroom, resource room)" "activity (e.g., reading, spelling, math)" "task (reader, worksheet)" "physical arrangement (e.g., entire group, divided group)" "instructional structure (e.g., independent, one-on-one)" (c) <i>teacher events</i> "teacher definitions (e.g., regular, special, peer tutor)" "teacher behavior (e.g., read aloud, academic talk)" "approval (e.g., approval, disapproval)" "teacher focus (e.g., target student, other)"
Gutman & Midgley (2000)	School belonging	A, C	School belonging defined as extent to which students feel personally accepted, respected, included, and supported at school. (a) Adapted from Goodenow and Grady (1994), (b) <i>feel at school</i> "I feel like a real part of the school" "I wish I was in a different school" (only sample items available).
Hawkins et al., (2001)	School bonding	A, B	Definition not available. School bonding is described in terms of social bonds. Social bonds consist of attachment (a positive emotional link), and commitment (a personal investment in the group). (a) <i>school bonding</i> : "I like school" "Most mornings I look forward to going to school" "I do extra work on my own" "When I have an assignment to do, I work until it's finished" "I like my classes this year"
Heaven, Mark, Barry, & Ciarrochi (2002)	Attitudes to school	A, B, C	Attitudes to school defined as measured. (a) <i>relationship with teachers</i> : "How well do you relate to your teachers?" (b) <i>attitudes to</i>

Appendix (continued)

				<p><i>school</i>: “school is boring/fun” “I would leave school if I could” “How often do you skip school?” (c) <i>schoolwork</i>: “How often do you complete your homework.”</p>
Hoppe et al. (1998)	School attachment	A	<p>Definition not available. Attachment is a component of Hirschi’s (1969) social control theory</p> <p>(a) <i>attachment to school</i>: “Most mornings I look forwards to going to school” “I like school”</p>	
Jessor, Turbin & Costa (1998)	Orientation to school	A, C	<p>Orientation to school defined as measured.</p> <p>(a) <i>orientation to school</i>: “How do you feel about going to school” (only sample item available.)</p>	
Johnson, Crosnoe, & Elder (2001)	School attachment; Engagement in school	A, B	<p>School Attachment defined as the extent to which one feels a part of one’s school. Engagement defined as “playing by the rules” of school.</p> <p>(a) <i>engagement in school</i>: “In the past school year, how many times the adolescent skipped school?” “In the past school year have many times the adolescent had trouble paying attention” “In the past school year have many times the adolescent had trouble getting homework done” (b) <i>school attachment</i>: “Extent to which adolescent felt close to people at school” “Extent to which adolescent felt a part of their schools” “Extent to which adolescent were happy to be at school.”</p>	
Joseph (2002)	Alienation	A, C	<p>Alienation defined as measured.</p> <p>(a) <i>attitudes towards school</i>: “How much do you like being in school?” “How important are school grades to you, personally?” (b) <i>experiences in school</i>: “How many teachers seem to care about how well you do in school?” “Do teachers discriminate against you because of your race?” (c) <i>relevance of the curriculum</i>: “What is taught in school means nothing to me.” (d) <i>involvement in school</i>: “How many times in the past year did you participate in social activities at school?” “How many times in the past year did you participate in school activities other than social activities?” “How many times in the past year did you attend school activities?” (e) <i>future educational plans</i>: “Do you plan to get more education?” “What kind of education do you plan to get?”</p>	

Appendix (continued)

Mahoney & Cairns (1997)	School engagement	B	<p>School engagement defined as measured. (a) <i>extracurricular involvement</i>: measured by number of activities under which the participant's name was listed in the yearbook</p>
Manlove (1998)	School engagement	B, C	<p>School engagement defined as measured. Items assess school engagement at the individual level. (a) <i>school performance</i>: measured by grades (average of student self-report in 4 subject areas), test scores (standardized scores on 8th grade math and English tests), (b) <i>teacher ratings</i>: two teachers rated whether students had "low ability" (c) <i>level of involvement in schoolwork</i>: homework hours (students report number of hours spent weekly on homework) educational aspirations (students report postsecondary school plans), (d) <i>grade retention</i>: youth report if they were retained before 8th grade, (e) <i>religious involvement</i>: measured by whether student reported involvement in a religious club.</p>
McNamara (2000)	School bonding	A, B	<p>School bonding defined as measured by Effective Schools Battery. Effective Schools Battery (a) <i>positive peer associations</i>: "Whether the student's friends are interested in school" "Whether the student's friends think getting good grades is important" "Whether the student's friends exert pressure for negative behavior" "Whether the student's friends have been involved in delinquent activities" (b) <i>attachment to school</i>: "This school makes me like to learn," "How important is... the grade you get at school?" (c) <i>school involvement</i>: "degree of involvement in constructive extracurricular activities such as school clubs and athletic teams" (only sample items available)</p>
Mouton, Hawkins, McPherson, & Copley (1996)	School attachment	A, B, C	<p>School attachment defined as sense of belonging at school, a network of relationships with peers and other school personnel, and sense of inherent value for the learning process as it relates to students' lives. (a) <i>School Attachment Questionnaire</i>: "People at school like me" (only sample item provided) (b) <i>semi-structured interviews</i>: "I am trying to learn about how kids feel attached to school or like they belong at school. When I say 'attached' what do you think that means?" "How attached to school are you?" "What do you think has made you this way?" "Who do</p>

Appendix (continued)

			you feel close to at school? Who cares about you?" "Do you feel like you belong at school? How do you fit in?" "What are you involved in at school, outside of required things?" "What keeps you coming to school?" "Imagine a kid who's really attached to school, one who really fits in or belongs. What would that be like?" "How does that compare to you?"
Murdock (1999)	School alienation	B	School engagement defined as measured. Behavioral signs of school alienation (a) <i>engagement in school tasks</i> : based on teachers ratings of student's attendance, class participation, assignment completion (b) <i>disciplinary problems</i> : student's ratings of frequency of disciplinary actions taken against them (sent to principal, detention, in-school suspension, home suspension)
Murray & Greenberg (2001)	School bonding	A, C	School bonding defined as measured. Used People in My Life (PIML; Cook, Greenberg, & Kusche, 1995) scale, Student-Teacher Relationship and School Bonding Factors. (a) <i>bonds with school</i> : "Most mornings I look forward to going to school" "I feel safe at my school" "My school is a nice place to be" "I like to take part in class discussions and activities" "I feel sure about how to do my work at school" "Doing well at school is important to me" "Kids at my school have a good chance to grow up and be successful" "I like my classes this year" (b) <i>affiliation with teacher</i> : "I like my teachers this year" "My teachers respect my feelings" "My teachers understand me" "I trust my teachers" "My teachers pay a lot of attention to me" "I get along well with my teachers" "My teachers are proud of the things I do" "There is a teacher at my school that I can count on when I have a problem" (c) <i>dissatisfaction with teacher</i> : "I get upset easily with my teachers" "I feel angry with my teacher" "It's hard for me to talk to my teachers" (d) <i>school dangerousness</i> : "I feel scared at my school" "There are a lot of drugs and gangs in my school" "My school is a dangerous place to be."
Neumark-Sztainer, Story, French, Resnick (1997)	School connectedness	A	School connectedness defined as measured. (a) <i>school connectedness</i> : 5-point scale ranging from "I like school very much" to "I hate school."

Appendix (continued)

O'Donnell, Hawkins, & Abbott (1995)	School bonding	A, B, C	School bonding defined as measured. School bonding and achievement scale. (a) <i>commitment to school (student report)</i> : "I do extra work on my own in class," "When I have an assignment to do, I keep working on it until it is finished." (b) <i>academic effort (student report)</i> : "I try hard in school," "It is important to me to get good grades," "I try to do things that will make my teachers proud of me," "I've worked hard to be successful in school." (c) <i>attachment to school (student report)</i> : "I like my math teacher this year," "I like my language arts/English teacher this year," "I like my social science teacher this year," "I like school," "Most mornings I look forward to going to school," "I like my classes this year." (d) <i>educational expectations (student report)</i> : "Eventually, how much schooling do you actually expect to get?" (e) <i>educational expectations (parent report)</i> : "How much schooling do you actually expect that child will complete?" (f) <i>self-report of grades (student report)</i> : "Putting them all together, what were your grades like in school this year?" "How are your grades compared to the grades of most kids in your class?" (g) <i>teacher support (student report)</i> : "My math teacher praise or compliments me when I hard." "My language arts or English teacher praises or complements me when I work hard." "My math teacher notices when I am doing a good job and lets me know about it." "My language arts or English teacher notices when I am doing a good job and lets me know about it." "My social studies teacher notices when I am doing a good job and lets me know about it."
Osterman (2000)	Belonging; Community	B, C	Belonging is defined as a sense of community within a group. These terms refer to members' feelings that the group is important to them and that they are important to the group, and that the group will satisfy each member's needs and will provide support.
Pierson & Connell (1992)	Student engagement	A, B	Student engagement defined as measured. (a) teacher's report card estimates of effort.
Robertson, Harding, & Morrison (1998)	School bonding	A, C	School bonding defined as measured. Measured by Psychological Sense of School Membership Scale (PSSM, Goodenow, 1993).

Appendix (continued)

Roeser, Midgley, & Urdan (1996)	School belonging	A	<p>School belonging defined as measured. Patterns of Adaptive Learning Survey (PALS) subscale. (a) <i>feelings of belonging in school</i> “I feel like I belong in this school.” “I feel like I am successful in this school” “I feel like I matter in this school” “I do not feel like I am important in this school.”</p>
Rumberger & Larson (1998)	Student engagement	B, C	<p>Student engagement defined as measured. Student engagement 8th grade- (a) <i>absenteeism</i>: “Number of days of school missed over the past four weeks” (b) <i>misbehaved</i>: “Student was sent to the office for misbehaving” “Student was sent to the office because of problems with schoolwork” “Parents received warning about their behavior” (c) <i>no school activities</i>: “Student did not participate in any school activities in the current school year” (d) <i>low expectations</i>: “Student expects to finish high school or less” (e) <i>prepared for class</i>: “How often they come to class without pencil or paper” “How often they come to class without books” “How often they come to class without their homework done.” Student engagement 12th grade- (a) <i>absenteeism</i>: “Number of school days missed in the first semester” (b) <i>misbehaved</i>: “How often during first semester student got in trouble for not following school rules” “How often during first semester student was put on in-school suspension” “How often during first semester student was suspended or put on probation from school” “How often during first semester student was transferred to another school for disciplinary reasons” (c) <i>no school activities</i>: “Student did not participate in any school activities in a typical week” (d) <i>low expectations</i>: “Student expects to finish high school or less” (e) <i>prepared for class</i>: “How often they come to class without pencil or paper” “How often they come to class without books” “How often they come to class without their homework done.”</p>
Ryan (2000)	Engagement	B	<p>Engagement defined as overt behaviors that can be observed in students (e.g., effort and persistence on schoolwork, participation in classes, time spent on homework).</p>

Appendix (continued)

Simons-Morton, Crump, Haynie, Saylor (1999)	Student-School bonding	A, C	Defined as a positive affiliation with school, attachment to prosocial peers, commitment to conventional academic and social activities at school, and belief in established norms for school behavior. (a) <i>student commitment to school</i> : (no sample items available).
Sinclair, Christenson, Evelo, Hurley (1998)	School engagement	B, C	School engagement defined as measured. (a) <i>participation in school</i> : “Year-end enrollment status (tracking system)” “Pattern of attendance over time (tracking system)” “Teacher ratings of assignment completion (teacher report)” (b) <i>school performance</i> : “Accrual of credits (district database)” “Academic competence (Social Skills Rating System – SSRS- teacher report)” “Problem behaviors (SSRS-teacher report)” (c) <i>identification with school</i> : “Relevance of school (Secondary Student Opinion Survey, SSOS- student report)” “Expectation to graduate (SSOS-student report)”
Sinclair, et al. (2001)	School engagement	B	Definition of school engagement not available. School engagement described by behaviors such as trying hard in class, participating in discussions, coming to class, completing homework, being attentive in class, avoiding distracting behavior, taking part in extracurricular activities.
Skinner & Belmont (1993)	Student engagement	A, B, C	Student engagement defined as the intensity and emotional quality of children’s involvement in initiating and carrying out learning activities. Engagement includes both behavioral and emotional components. Wellborn (1991) measure- (a) <i>behavioral engagement(teacher report)</i> : “When faced with a difficult problem, this student doesn’t even try” 2) <i>behavioral engagement (student report)</i> : “When I’m in class I usually think about other things” (c) <i>emotional engagement (teacher report)</i> : “In my class this student appears worried” (d) <i>emotional engagement (student report)</i> : “When I’m in class, I feel happy”
Wentzel (1998)	Student interest	A, B, C	Definition of engagement not available. Interest in school leads to student engagement. Student interest defined as measured.

Appendix (continued)

Student interest measured by interest in school and interest in class. (a) *interest in school*: assessed with the 10-item School Motivation Scale (Ford & Tisak, 1982) “I enjoy being at school” “For the most part, school is a waste of time” “I have discovered some new interests in school this year” (b) *interest in class*: (student ratings) “How hard do you really *try* in English class” “How often do you really *pay attention* in English class” (c) *interest in class*: (teacher’s ratings) “How often does this student show an interest in schoolwork?” (only sample items available)

Wentzel & Asher Engagement A, C
(1995)

Definition of engagement not available. Motivation reflects engagement and includes commitment to school work, interest in school, effort expended in classroom, concern with earning positive evaluation of work

(a) *school motivation (teachers ratings)*: “How often does this student show an interest in schoolwork?” “How often does this student show concern with evaluation” Quality of school life scale (student report) (a) *satisfaction with school*: “I like school very much” “I am very happy when I am at school” “Most of the time I do not want to go to school” (only sample items available) (b) *commitment to classwork*: “I hardly ever do anything exciting in class” “I day dream a lot in class” “Most of the topics we study in class can’t end soon enough to suit me” (only sample items available).

- A = Affective dimension included
- B = Behavioral dimension included
- C = Cognitive dimension included

Note. The table indicating affective, behavioral, and cognitive dimensions of the definition/measurement for each study reflects the agreement of all authors following systematic review and coding of each article. Agreement among initial coding revealed few discrepancies, and through discussion all codes were endorsed unanimously by each author.



Facilitating Student Engagement: Lessons Learned from Check & Connect Longitudinal Studies

Mary F. Sinclair, Sandra L. Christenson,
Camilla A. Lehr, and Amy Reschly Anderson
University of Minnesota

Lessons learned from years of applied research in the area of student engagement, dropout prevention and school completion are offered. This article begins with a summary of theoretical constructs that guided the development of Check & Connect and continues with descriptions of multiple applications of this targeted intervention. The roles of key personnel are identified and seven core elements of the model are highlighted including the importance of “persistence plus,” relationship building and individualized intervention. Considerations for effective implementation, derived from the experiences of longitudinal implementation studies, are discussed. These insights are offered for consideration to those who are in positions to influence the educational trajectory of youth for whom school completion is likely to be difficult.

Keywords: Dropout prevention, School completion, Student engagement, Youth, At-risk

Resiliency does not come from some rare or special qualities but from the everyday magic of ordinary normative human resources... (Masten, 2001, p. 235).

THE CHALLENGE

The basic requirements for active participation in our global society have increased dramatically over the past 40 years. Only recently have the public schools been expected to graduate all youth from high school, and never before have all students been expected to complete school with the skills equivalent to that of a post-secondary education freshman. Subsequently, the schools and broader educational community are faced with the challenge of creating opportunities for success and to provide necessary supports for all youth to meet these new goals. Under the Title 1 requirements of the No Child Left Behind Act, schools will be identified as needing improvement if their overall performance does not increase on a yearly basis toward the standards of excellence or if subgroups do not make adequate yearly progress, including English language learners and youth with disabilities for whom dropout rates are disproportionately high.

The California school completion rate has increased steadily from 77% to 82% between 1990 and 1998 (National Education Goals Panel, 2002). However, this rate of progress is not found among all populations of school age youth. For example, among the nation’s youth between the ages of 16 and 24 years in 2000, about 28% of all Hispanic youth were not enrolled in school nor had completed a high school program (National Center for Education Statistics, 2002). Of those Hispanic youth born outside

Address correspondence about this manuscript to Mary F. Sinclair, Ph.D., Research Associate *on leave from* University of Minnesota, Institute on Community Integration, 102 Pattee Hall, 150 Pillsbury Drive SE, Minneapolis MN 55455 or e-mail SINCL001@umn.edu. The longitudinal studies referred to in this manuscript were funded in part by the Office of Special Education Programs, US Department of Education (H023A40019 and H237H60012) and Dakota County Community Services. Opinions expressed in this paper are not necessarily those of the funding agencies. The authors want to acknowledge David Evelo, Colleen Kaibel, and Christine Hurley for their significant contributions to the implementation and development of Check & Connect.

of the United States, the comparable status dropout rate was 44 percent. Over a third of California students are of Hispanic origin (Educational Demographic Office, 2002). For no child to be left behind, the educational trajectory of youth struggling to succeed in school must be redirected and schools are expected to play a significant role in the process of tipping the balance.

Student Engagement and School Completion

“... If a child is doing well in school, if he or she feels part of the school, they are not going to drop out” (President, Society of Hispanic Professionals of North Carolina, 2002).

Student engagement in school has become an integral part of the conversation on dropout prevention and school completion (Christenson, Sinclair, Lehr, & Hurley, 2000; Doll & Hess, 2001; Grannis, 1994). In 1987, Rumberger brought attention to the misconception that dropping out of school was an instantaneous event and observed that dropping out is better likened to a long process of withdrawal and disengagement. Strong correlations between school completion rates and indicators such as elementary school attendance and early academic performance, yielded from the national longitudinal data sets of the time, propelled this change in perspective. The development of the Check & Connect model of student engagement was informed to a great extent by this emerging conceptual orientation.

Finn (1993) shared a continuum-like point of view and characterized student engagement in terms of levels or degrees of connection with school and learning. The basic premise of his Participation-Identification model is that student participation in school activities over time is essential in order for successful performance outcomes to be realized and subsequently for students to identify with school. Students are described as likely to remain engaged and complete school if they feel like they belong to and share common values with school. Accordingly, the majority of students who drop out are expressing an extreme sense of alienation or disengagement, which most likely was preceded by several behavioral indicators of withdrawal and unsuccessful school experiences.

A distinction between types of predictor variables was perhaps the most practical and timely insight of Finn’s model. As the national concerns about school dropout rates heightened in the late 1980s, he proposed categorizing the large and somewhat overwhelming list of variables associated with students’ exit status into two main groups: status predictor variables that educators have little ability to change, such as socioeconomic status of the community, and behavioral or alterable predictor variables that are more readily influenced by educators, families, and students, such as out-of-school suspensions and course failure. The utility in the dichotomy between status and alterable predictors lies within a suggested course of action for educators – to focus efforts on those predictors amenable to change.

Another level of differentiation, however, serves to bridge the gap between research and practice. This distinction is between indicators of engagement and facilitators of engagement found within the large set of alterable predictors of school completion. Indicators convey a student’s degree or level of connection with school and learning, such as attendance patterns, accrual of credits, problem behavior. Facilitators of engagement are those contextual factors that influence strength of the connection, such as school discipline practices, parental supervision of homework completion, and peer attitudes toward academic accomplishment. Facilitators of engagement have implications for intervention practice and policies, while indicators can be used to guide identification procedures – initiating referrals at the first signs of withdrawal – as well as to direct the progress monitoring of individual students and programs.

Christenson (2002) articulated a conceptual model for student engagement that provides a framework not only for understanding student levels of engagement (e.g., Finn, 1993), but for recognizing

the goodness of fit between the student, the educational environment and the factors that influence the fit. In brief, this model is focused on youth as learners, with school completion as the end goal. Engagement is defined as a multi-dimensional construct that involves four types of indicators. Academic and behavioral engagement refers to externally observable indicators, where time on task, academic engaged time, accrual of credits, and such exemplify academic engagement and where attendance, suspensions, classroom participation and such characterize behavioral engagement. Cognitive and psychological engagement refers to internal indicators, where processing academic information, thinking about a task, meta-cognitive emphasis or self-regulated learner exemplify cognitive engagement and where identification with school, belonging, positive peer relationships characterize psychological engagement.

Furthermore, engagement is not conceptualized as an attribute of the student, but rather a state of being that is highly influenced by contextual factors, such as policies and practices of the school and family or peer interactions. Three key contextual factors are identified – home, school, peers – in relation to the capacity of each to provide consistent support for learning. The school context refers to school climate (Bryk & Thum, 1989; Lehr, 1999; Wehlage, Rutter, Smith, Lesko, & Fernandez, 1989), quality of teacher-student relationship (Birch & Ladd, 1997; Hamre & Pianta, 2001; Wentzel, 1997), effective instruction in academic, social and emotional learning areas (Zins & Wang, 2001), options for programming (Christenson, et al., 2000; Dynarski & Gleason, 2002), and mental health support. The family context refers to academic and motivational support (Bempecht, 1998). Peer context refers to school experiences and expectations to graduate among peers, relational aggression, and social networks (Berndt & Keefe, 1995; Kurdek & Sinclair, 2000; Steinberg, Dornbusch, & Brown, 1992).

A significant feature of the current framework is the shift in focus from preventing dropout to promoting school completion. The language of the former tends to saddle the burden of change solely on the youth and to equate the problem with the student (Dorn, 1996). From this perspective, expectations are lowered and interventions are developed with the intent of fixing deficiencies within the child. The language of the latter emphasizes the importance of the person-environment fit and the distribution of responsibility for change across the school, family, community as well as the student. Within this framework, youth are not referred to as ‘at risk,’ but as ‘placed at risk’ because of contextual situations and circumstances.

Applications of a Field-Tested Model of Student Engagement

School psychologists, in partnership with other professionals such as outreach consultants and school counselors, are in positions to facilitate change and bridge the gap between research and practice. The purpose of this paper is to present lessons learned and to discuss implications from over a decade of field testing the Check & Connect model of student engagement. To begin, a brief overview of the model is provided. The roles of key personnel are summarized, with an emphasis on aspects of their roles that contribute to treatment integrity. Core elements of the model are described and pivotal themes to consider in the process of implementation are highlighted. Note these elements of intervention and implementation are highly inter-related.

Check & Connect

Check & Connect is a comprehensive model intended to promote students’ engagement with school. It can be characterized as a highly targeted and individualized approach involving identification, treatment, and skill building among individuals and families, sometimes referred to as an indicated or targeted prevention (Weissberg, et al., 1997), and would ideally be used in complement with

universal or schoolwide prevention efforts, such as smaller learning communities or positive behavior supports. Check & Connect is data-driven and designed to maximize personal contact and opportunities to build trusting relationships. The person responsible for facilitating a student's connection with school and learning is referred to as the monitor. Student levels of engagement (such as attendance, grades, suspensions) are checked regularly and used to guide the monitors' efforts to increase and maintain student's connection with school (see www.ici.umn.edu/checkandconnect).

The monitor uses individualized intervention strategies and helps the student develop habits of successful school engagement. Trust and familiarity are developed over time through persistent outreach to the student and family. Efforts include regularly checking on student attendance and academic performance, providing ongoing feedback about student progress, modeling the use of problem-solving skills, frequently communicating with families about both good and bad news, and being available to the youth to listen about personal concerns. The monitors' interactions with students, parents, educators and others are guided by the check and connect components of the model.

Check & Connect evolved from a grant by the Office of Special Education Programs in the early 1990s to develop, implement and evaluate an intervention for reducing dropout rates among middle school youth with learning or emotional and behavioral disabilities (Sinclair, Christenson, Evelo & Hurley, 1998). It was developed with input from individuals directly involved with youth placed at high risk for school failure – teachers, school and community resource staff, target students and their parents, and a team of researchers. Intervention impact for this initial study was assessed using a quasi-experimental design. After two years of the Check & Connect intervention in middle school, 94 ninth graders with learning and behavioral disabilities were randomly assigned to Check & Connect or a no-intervention control group. By the end of ninth grade, students in the treatment group were significantly more likely to be enrolled in school (91% v 70%), have persisted in school with no periods of 15-day absences (85% v 64%), and on track to graduate within five years (68% v 29%) than students in the control group. Ratings of student competences using the Social Skills Rating System indicated that special education teachers perceived treatment students as more academically competent than students in the control group (standardized scores of 87 v 78, $p < .05$) and general education teachers rated problem behaviors lower among treatment students than those in the control group (standardized scores of 102 v 115, $p < .05$). However, no significant differences were found between groups across measures of identification with school (i.e., relevance, expectation to graduate).

Since the original study, Check & Connect has been replicated in urban and suburban communities, in elementary and secondary settings, for youth with and without disabilities. Analyses of program effectiveness data from three of these subsequent longitudinal studies have consistently yielded positive results: reduced rates of truancy and increased attendance (Lehr, Sinclair, & Christenson, 2002); reduced rates of truancy, out-of-school suspensions, course failures and increased rates of attendance (Sinclair & Kaibel, 2002); and reduced rates of dropout, increased rates of persistent attendance, and increased five-year school completion rate (Sinclair, 2001). Each of these longitudinal studies has clarified our understanding of the model's core elements, sharpened insights into implementation strategies, and heightened an appreciation for the facilitators of engagement – those policies and practices of schools and families that promote students' engagement in the educational process.

Key Personnel as Facilitators of Change

The job descriptions and performance expectations for the two primary personnel positions with Check & Connect have been carefully structured in an effort to maximize resources and to allow the theoretical foundation and core elements of the model to be operationalized to their fullest.

Monitor. The role of the monitor was modeled after one of the commonly identified protective factors in resiliency literature – the presence of an adult in the child’s life to fuel the motivation and foster the development of life skills needed to overcome obstacles (Masten & Coatsworth, 1998). The role of the monitor can be characterized as a cross between a mentor, advocate, and coordinator of services (Christenson, et. al., 1997). The monitor extends the school’s outreach services to the youth and family in an effort to better understand the circumstances affecting their connection to school and to persistently work with the youth and family to overcome barriers that have kept them estranged from school. The monitor works with a caseload of students and families over time (at least two years) and follows their caseload from school to school. Monitors typically have a bachelor’s degree in a human services related field or comparable experience and are most effective if they possess the following skills and attitudes: persistence; belief that all children have abilities; willingness to work closely with families using a non-blaming approach; advocacy skills, including the ability to negotiate, compromise, and confront conflict; good organizational skills, including an appreciation for documentation demands; and the ability to work well independently in a variety of settings. The position is structured for staff to work outside of the defined workday in order to reach youth and families during weekend and evening hours and throughout a full 12 months to ensure continuity and sustained contact over the summer.

Coordinator. The coordinator is responsible for day-to-day direction of the intervention and has typically been staffed by a licensed professional in the school district, such as a special education coordinator or school psychologist. A critical role of the coordinator is to keep the intervention grounded in the theoretical framework and efforts focused on improving the student-environment fit that will allow youth to meet the demands of school. The position of the coordinator has been anchored at the district level or county level rather than the building level, in large part out of response to comorbidity of high mobility and dropout rates.

Expertise is assumed to reside at first with the coordinator and to be shared with monitors through ongoing staff development. The coordinator provides vital expertise regarding appropriate intervention and procedures, links monitors up to critical school and community resources, and lends legitimacy to the program among building staff. Timely technical assistance from the coordinator is essential, as is routine professional development. The program coordinator facilitates weekly to semimonthly staff meetings. The meetings are used to review appropriate procedures and practices, exchange information about useful resources, provide case consultation, clarify roles in relation to other professionals, and discuss strategies for communicating with other professionals and families.

Core Elements of the Model

Check & Connect uses a comprehensive approach to promote student engagement with school. Seven core intervention elements serve to guide the actions of program staff and can be used to judge treatment integrity (see Table 1). The core elements were first articulated in an implementation guide from the original study (Evelo, Sinclair, Hurley, Christenson, & Thurlow, 1995) and have been refined over the years.

Relationship building. Building relationships is a central tenant of the model. This focus stems from resiliency research that has documented a strong correlation between the presence of a caring adult and positive school and post-school outcomes for youth placed at high risk for failure (Masten & Coatsworth, 1998). A positive relationship is defined as one based upon mutual trust and open communication. The monitor’s effort to build relationships extends beyond the monitor-student dyad, to that of family members and school staff. Monitors continually promote productive communication be-

Table 1.
Core Elements of Check & Connect Model of Student Engagement

Elements	Description
Relationship Building	— mutual trust and open communication, nurtured through a long-term commitment that is focused on student’s educational success.
Persistent Plus	— a persistent source of academic motivation, a continuity of familiarity with the youth and family, and a consistency in the message that “education is important for your future”.
Routine Monitoring of Alterable Indicators	— systemic check of warning signs of withdrawal (attendance, academic performance, behavior) that are readily available to school personnel and that can be altered through intervention.
Individualized and Timely Intervention	— support that is tailored to individual student needs, based on level of engagement with school, associated influences of home and school, and the leveraging of local resources.
Following Students and Families	— following highly mobile youth and families from school to school and program to program.
Problem-Solving	— cognitive-behavioral approach to promote the acquisition of skills to resolve conflict constructively and encourage the search for solutions rather than a source of blame.
Affiliation with School	— student access to and active participation in school-related activities and events.

tween all these key players. Monitors are not expected to be best friends, but rather a reliable and consistent adult whose job is to promote students’ connection with school. The opportunity to build trust is enhanced by the program’s long-term commitment to a student, preferably at a minimum of two years.

Routine monitoring of alterable indicators. The monitoring of alterable indicators is the premise of the check component of the model. Engagement in school is measured using several alterable indicators that are amenable to change. The alterable indicators include behavioral engagement (tardy to school, skipping classes, absenteeism, out-of-school suspension, other disciplinary consequences such as behavior referrals, detention, in-school suspension) and academic engagement (course failures, accrual of credits, status on graduation requirements). The monitors obtain attendance information and the other indicators of participation primarily from school records, attendance clerks, teachers and assistant principals. These individuals are also consulted to verify contradictory information, as are the student or family members. Monitors maintain near daily awareness of the levels of engagement for each student on their caseload. Each student’s progress is summarized at monthly intervals, documented and reviewed with the youth, as well as used to guide intervention.

Individualized and timely intervention. The premise of the connect component of the model is an individualized approach that is delivered in a timely manner. This includes two levels of student-focused interventions developed to maximize the use of finite resources: basic intervention, which is the same for all students, and intensive interventions, which are more frequent and individualized. All students receive basic interventions (even if receiving intensive interventions), whereas indicators of school engagement are used to guide who receives the delivery of more intensive interventions. Indi-

vidual needs of the student dictate what specific intervention strategy is used. The two levels of intervention help the monitors to manage their time and resources with efficiency and responsiveness.

Following students and families. Check & Connect underwent a purposeful revision three years into its development and shifted from a school-based intervention to one in which intervention follows the student and family (Sinclair, et al., 1998). Subsequent Check & Connect replication studies aligned staff and student caseloads with service capacity focused at the county or district level. Up to a third of targeted students attended multiple schools during a single year within a given service area (Sinclair, 2001). Yet, about a quarter to a third of cases were still closed due to mobility out of the defined program service area (Sinclair & Kaibel, 2002; Lehr et al., 2002). The decision to modify the model rested in the belief that substantive impact on the population of youth who drop out of school had to address issues of mobility, a significant covariate of school failure and the population in question (Rumberger & Larson, 1998). The associated lack of stability seriously undermines the potential for youth to identify with school or develop a sense of belonging and shared values. Even if schools offer a continuum of services well suited to meet the needs of disenfranchised students, the potential benefit can be lost if youth do not remain in the building long enough or trust someone enough to participate. Sustained intervention and continuity of relationship provides a protective factor during times of transition and may even serve to reduce mobility over the long term.

Problem-solving. Check & Connect monitors model and coach the use of a cognitive-behavioral problem-solving approach, intended to promote the acquisition of conflict resolution skills and the capacity to seek solutions rather than a source of blame. Skill acquisition also lends itself to capacity building and minimizes the likelihood of creating student and family dependency. The constant in Check & Connect (basic intervention) is a deliberate conversation with each student – at least monthly for secondary students and weekly for elementary students. This conversation institutionalizes the continual exchange of information about students' progress in school, the relationship between school completion and the check indicators of engagement, the importance of staying in school, and review of problem-solving steps used to resolve conflict and cope with life's challenges. For problem solving, students are guided through real and/or hypothetical problems using a five step strategy: (1) "Stop. Think about the problem." (2) "What are the choices?" (3) "Choose one." (4) "Do it." and (5) "How did it work?"

Affiliation with school and learning. Monitors strive to facilitate student access to and active participation in school-related activities and events. Research has shown that student participation in extra-curricular activities is associated with reduced dropout rates (Rumberger, 1995). This association can be attributed to an increase in structured, supervised out-of-school time as well as to an alternative opportunity for youth to develop a sense of belonging and shared values with school. Helping youth gain access has been the most common barrier to surmount. Monitor's efforts have included informing students about options, reviewing their schedule for potential conflicts, addressing transportation challenges, waiving enrollment fees, filling out registration forms and obtaining parent permission, walking students to the first meeting, and checking in with program staff and students for feedback on their experiences.

Persistence plus. Persistence plus refers to a persistent source of academic motivation, a continuity of familiarity with the youth and family, and a consistency in the message that "education is important for your future" (Thurlow, Christenson, Sinclair, Evelo & Thornton, 1995). Persistence, continuity and consistency are provided in tandem, to show students that there is someone who is not going to give up on them or allow them to be distracted from school, that there is someone who knows the student and is available to them throughout the school year, the summer, and into the next school year,

and that there is a common message about the need to stay in school. The message stays the same, regardless of whether it is delivered by the same person over the course of time. Persistence is a theme evidenced in each of the core elements of the model and the following aspects of implementation.

Considerations for Effective Implementation

With each application of Check & Connect, regardless of setting or population, the momentum for effective implementation centers around a number of common themes. The prominent themes include partnering with families, systematically targeting students for intervention, using data to guide intervention and to assess impact, flexibility to accommodate needs of student who are placed at risk, making a sustained and long-term commitment, and maintaining a focus on education (see Table 2).

Partnering with families. A *family-centered approach* is used to guide intervention and is evidenced most directly in four of the core elements of the model: relationship building, problem solving, persistence plus, and following students and families (Christenson, et al., 2000; McWilliam, Tocci, & Harbin, 1998). The monitor's role includes engaging caregivers in the student's schooling and learning, facilitating contacts with other resources as requested by the family, or by minimizing barriers identified by the family. Monitors seek to develop trusting relationships, first, by directing education related services to the caregiver, not just the youth. Interactions are characterized by a belief in caregivers' abilities and a sensitivity to anticipate how they might feel given a variety of circumstances. Monitors listen and pay attention to caregivers' needs. Relationships are reciprocal in nature and intended to convey support, encouragement and care. Finally, monitors act as a resource for families and provide relevant information about children, schools and the community.

Table 2.
Considerations for Effective Implementation of Targeted Intervention

Themes	Description
Partnering with Families	— refers to a family-centered approach, home visiting, and the allocation of bilingual and multilingual staff.
Systematically Targeting Students for Intervention	— refers to systematic identification, monitoring and follow-along, and includes the use of multiple referral criteria derived from alterable indicators of engagement.
Using Data to Guide Intervention and Improvement	— refers to a progress-monitoring approach that demands allocation of time and selectivity, and encourages routine use of the student engagement data.
Flexibility to Accommodate Student Needs	— refers to the need to address misconceptions about the term accommodation and to explore alternate routes and alternate time lines to school completion.
Maintaining a Focus on Student's Educational Progress	— serves to foster common ground, keep outreach focused on amenable factors, and to minimize demographic differences between student and monitor.
Making a Sustained and Long-Term Commitment	— allows for time needed to build relationships, redirect students' trajectories, provide support through critical transitions, and to manage staff learning curves.

Partnering with families through *home visits* is an integral element of the outreach effort to engage students in learning. The home visit is just one of several ways to communicate with students and their caregivers. The ultimate goal is to establish a dialogue that is sometimes not possible over the telephone, through email, letters and memos. Persistent and respectful communication is dependent upon using all means of contact and often at times that fall outside of the defined workday – in the evenings, over the weekend. This approach shifts the majority of outreach efforts from attempts at contact to actual interactions and exchange of information.

The allocation of bilingual and multilingual staff is critical in school communities with English language learners. When adults in the household do not speak English, the job of translation typically falls to the school-age youth. The role reversal between parent and child can often compromise efforts of the school to engage estranged learners. When program staff can nullify the language barrier, caregivers can become more active partners and effective supporters of their children's education.

Systematically targeting students for intervention. This practice begins with *systematic identification*, monitoring, and follow-along of youth. The intent is to minimize the likelihood that students will slip through the cracks and increase the odds of targeting the youth most in need of support services. School staff can find themselves putting out fires, overwhelmed by youth who present themselves through disruptive behavior and other overt means. The need to respond to crises increases the risk of overlooking highly mobile and passively withdrawn youth. Efforts to promote school completion and reduce dropout rates must include the allocation of time for systematic review of student levels of engagement. Systematic identification should be based on referral criteria and procedures that are clear to school staff, parents and students.

The systematic use of *multiple referral criteria* increases the accuracy of the prediction formula (Gleason & Dynarski, 1998; Jimerson, Egeland, Sroufe, & Carlson, 2000). Criteria that include alterable warning signs of school withdrawal, particularly attendance indices and academic performance, are by definition more indicative of student levels of engagement and subsequent risk for school failure than status predictors, such as ethnicity or free/reduced lunch status (Finn, 1993; Rumberger, 1995). Present and historical data are utilized and offer insights into trends and patterns that can be used to judge changes in student's educational trajectory and the strength of student's engagement. Input from staff familiar with the youth is also critical, particularly when staff have reliable information about sibling and parental school experiences, mental health challenges, substance use, early parenthood, youth's employment status and other contextual factors that may push or pull a youth from school.

Using data to guide intervention and program improvement. All schools maintain student records in some format that include basic indicators of engagement, such as grade level reading assessments, tardies, suspensions, or course grades. Check & Connect was designed to draw upon the existing data and use the information to continually guide intervention efforts and to evaluate program impact. A data-driven intervention requires the *allocation of time and selectivity*. School communities are asked to determine what alterable indicators and other referral information are readily available, reasonably reliable, and most meaningful to collect routinely. Decision makers are encouraged to be selective in order to create a feasible system. The coordinator routinely checks with program staff to verify whether student progress is logged with consistency and accuracy, such that everyone is using the same operational definitions (e.g., including both excused and unexcused absences, separating in and out of school suspensions, and so on).

The routine use of the student engagement data directly from the original source would be ideal, but is rarely a viable option. Program staff are typically obliged to transfer information at least once,

often from multiple sources to one summary sheet. Utility is achieved when the data is re-formatted to reveal each student's progress at a glance. We have found that summaries tallied at monthly intervals, projected over a year, on one sheet of paper per student to be a useful (see Figure 1). Individual summary data is then aggregated for assessment of program impact. Status predictor variables (e.g., family income, English language learner, disability) are used to determine whether performance is improving and meeting standards for *subgroups* of student in relation to the overall population – as required under Title 1 requirements of the *No Child Left Behind Act*.

Flexibility to accommodate needs of students who are placed at risk. The unique needs of learners placed at risk for school failure invariably raise two common implementation issues. One is the need to *address misconceptions about the term accommodation*. A disproportionate number of youth placed at risk for dropping out have learning or emotional and behavioral disabilities and, by definition, their capacity to meet the demands of a traditional school setting is compromised. Accommodating for the needs of these students does not mean lowering standards or expectations, but rather changing the delivery of instruction or method of testing so a student's understanding is in focus rather than the disability (Thurlow, Sinclair, & Johnson, 2002). For example, reading a test aloud to a student with a visual impairment or learning disability is an accommodation that allows the teacher to measure what the student knows separate from the youth's reading skills, visual capacity, or proficiency in Braille.

The other issue is the need to consider *alternate routes to school completion and alternate time lines*. Some youth who drop out leave school without knowledge of their alternative options. This

Check & Connect Monitoring Sheet												Student	Monitor	Current Grade	Birthdate				
School Year: 2002-2003												ID	Date presentation signed	Case closed <input type="checkbox"/> (check box) Date closed	Reason closed <input type="checkbox"/> (parent w/d) <input type="checkbox"/> other	Date case re-opened			
SCHOOL	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	Summer								
Name																			
Setting	total all 1/2 V	total all 1/2 V	total all 1/2 V	total all 1/2 V	total all 1/2 V	total all 1/2 V	total all 1/2 V	total all 1/2 V	total all 1/2 V	total all 1/2 V	total all 1/2 V								
CHECK	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	Summer								
Tardy																			
Skip																			
Absent	E / I / O	E / I / O	E / I / O	E / I / O	E / I / O	E / I / O	E / I / O	E / I / O	E / I / O	E / I / O	E / I / O								
Suspension																			
Other Ref	T / H / DE	T / H / DE	T / H / DE	T / H / DE	T / H / DE	T / H / DE	T / H / DE	T / H / DE	T / H / DE	T / H / DE	T / H / DE								
For Total # Classes (middle / junior / high school student)												30 period /	30 period /	30 period /	30 period /				
CONNECT	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	Summer								
Student	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31							
Family	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31							
School Staff	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31							
Social Worker	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31							
Probation Officer	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31							
Other	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31							
Basic	E / Dual	E / Dual	E / Dual	E / Dual	E / Dual	E / Dual	E / Dual	E / Dual	E / Dual	E / Dual	E / Dual								
Intensive	E / Dual	E / Dual	E / Dual	E / Dual	E / Dual	E / Dual	E / Dual	E / Dual	E / Dual	E / Dual	E / Dual								

University of Minnesota, Institute on Community Integration (Shickel, revised 1997)

Figure 1. Monitoring sheet used to chart each student's progress and log intervention efforts

includes the notion that a four-year completion rate is required. Note, students who consistently earn 80% of their credits each year will be on track to graduate in five years. If the appropriate person-environment fit has not been achieved in a student's current educational setting after repeated attempts to accommodate the student's needs, a transfer to a more compatible program may be warranted before the youth completely disengages from school. Alternative schools, charter schools, and GED credentials provide students less traditional routes to acquire the skills and knowledge needed to participate in society.

Maintaining a focus on students' educational progress. Emphasis on students' school success is a compelling source of common ground among the key constituents. Conflict between parents, teachers, students, and community advocates is inevitable in the process of reaching out to disengaged youth. Rarely however, do any of these key players disagree over their desire for students' achievement. The monitor's primary goal is to promote regular school participation and to keep education the salient issue. The monitor's message is that a caring adult wants the student to learn, do the work, attend class regularly, be on time, express frustration constructively, stay in school and succeed. Maintaining a focus on students' educational progress also serves to keep interventions tightly focused on those factors most amenable to change. Furthermore, the persistent educational advocacy and high expectations for the student on the part of the monitor serves to minimize any initial feelings of distrust sometime carried by youth who differ from the monitors in terms of gender, ethnicity, or income.

Making a sustained and long-term commitment. Long-term, sustained intervention allows for the time needed to build relationships and to redirect youth onto a solid path toward school completion. Sustained intervention is highly critical particularly during periods of transition. Reducing dropout rates and promoting students' engagement with school takes time, years for those youth placed at highest risk. In addition, the *learning curve for program staff is quite steep* during the first year with the program. Time is made available for monitors to attend community and district workshops on topics ranging from transition planning, to mandated reporting, to problem solving and conflict resolution. New applicants are asked to pass on a job offer if they cannot make a good-faith, two-year commitment to the position – in part because of the steep learning curve and to minimize the number of adults who walk in and out of the lives of the target youth.

Summary

Promoting school completion implies much more than the reduction of dropout rates. Preparation of youth for productive and meaningful participation in a community begins, for educators, with the promotion of students' engagement in school and learning. Engagement that leaves no child behind must encompass broad-based interventions that address more than simply increasing students' time on task (i.e., academic engagement). The educational success of all students will require the explicit attention to social and emotional learning as well as academics, through the focus on cognitive, psychological, and behavioral engagement along with academic engagement.

The California Senate Bill 65 (SB65), Dropout Prevention and Recovery Act, first established in 1986, is an elegant example of an integrated system of support for learning, targeting youth placed at risk for school failure (www.cde.ca.gov/spbranch/ssp/sb65index.html). This bill initiated a powerful collaborative of the legislature, state and local education agencies, and more recently the California State University system, and is backed by a significant and consistent funding stream to support dropout prevention efforts to hundreds of schools across the state. The programs to promote student success, as developed by California, provides school psychologists, outreach consultants, and other educators with the means to incorporate these numerous strategies discussed in this article. These devel-

opments hold important implications for promoting school completion for youth placed at risk for school failure.

The challenge at hand is to establish and maximize opportunities that will allow all youth to successfully meet the new standards of excellence. The systematic and individualized use of core elements described herein have demonstrated treatment-control differences in some critical engagement variables, participation and academic performance. The lack of any detectable change in students' identification with school, however, suggests that a sense of belonging and shared values has not been achieved. Without consideration of the necessary *school climate* foundation, including the degree to which students experience opportunities for successful learning experiences, involvement in relevant activities that link to future endeavors, and a caring, supportive environment (McPartland, 1994), students may not develop a sense of belonging (or psychological engagement). Thus, our challenge includes not only delivery of a targeted intervention that taps into the resources of the school, home and peers, but also includes attention to the critical influences of these three contextual factors.

REFERENCES

- Bempechat, J. (1998). *Against the odds: How "at-risk" students EXCEED expectations*. San Francisco: Jossey Bass.
- Berndt, T.J., & Keefe, K. (1995). Friends' influence on adolescents' adjustment to school. *Child Development*, 66, 1312-1329.
- Birch, S., & Ladd, G. (1997). The teacher-child relationship and children's early school adjustment. *Journal of School Psychology*, 35, 61-79.
- Bryk, A.S., & Thum, Y.M. (1989). The effects of high school organization on dropping out: An exploratory investigation. *American Educational Research Journal*, 26, 353-383.
- Christenson, S.L. (2002, November). *Families, educators, and the family-school partnership: Issues or opportunities for promoting children's learning competence?* Paper prepared for the 2002 invitational conference: The Future of School Psychology, Indianapolis, IN.
- Christenson, S.L., Hurley, C.M., Hirsch, J.A., Kau, M., Evelo, D.L., & Bates, W. (1997). Check and connect: The role of monitors in supporting high-risk youth. *Reaching Today's Youth*, 18-21.
- Christenson, S.L., Sinclair, M.F., Lehr, C.A., & Hurley, C.M. (2000). Promoting successful school completion. In D. Minke & G. Bear (Eds.) *Preventing school problems-promoting school success: Strategies and programs that work*. Bethesda, MD: National Association of School Psychologists.
- Doll, B. & Hess, R. S. (2001). Through a new lens: Contemporary psychological perspectives on school completion and dropping out of school. *School Psychology Quarterly*, 16(4), 351-356.
- Dynarski, M., & Gleason, P. (2002). How can we help? What we have learned from recent federal dropout prevention evaluations. *Journal of Education for Student Students Placed at Risk*, 7(1), 43-69.
- Educational Demographic Office. (2002). *Dropout rates in California public schools, by ethnic group, 1985-86 through 2000-01*. Retrieved November 30, 2002 from www.cde.ca.gov/demographics/reports/statewide/ethdrop.
- Evelo, D.L., Sinclair, M.F., Hurley, C., Christenson, S.L. & Thurlow, M.L. (1995). *Keeping kids in school: Using check and connect for dropout prevention*. Program implementation manual. Minneapolis, MN: University of Minnesota, College of Education and Human Development, Institute on Community Integration.
- Finn, J. D. (1993). *School engagement and students at risk*. Buffalo, NY: State University.
- Gleason, P., & Dynarski, M. (1998). *Do we know whom to serve? Issues in using risk factors to identify dropouts*. Princeton, NJ: Mathematica Policy Research.
- Grannis, J. C. (1994). The dropout prevention initiative in New York City: Educational reforms for at-risk students. In R. J. Rossi (Ed.), *Schools and students at risk: Context and framework for positive change* (pp. 182-206). New York: Teachers College Press.
- Hamre, B.K., & Pianta, R.C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through the eighth grade. *Child Development*, 72(2), 625-638.
- Jimerson, S.R., Egeland, B., Sroufe, L.A., & Carlson, B. (2000). A prospective longitudinal study of high school dropouts: Examining multiple predictors across development. *Journal of School Psychology*, 38(6), 525-549.

- Kurdek, L.A., & Sinclair, R.J. (2000). Psychological, family, and peer predictors of academic outcomes in first-through fifth-grade children. *Journal of Educational Psychology, 92*(3), 449-457.
- Lehr, C. A. (1999). *At-risk students attending high schools: Factors that differentiate between persisters and dropouts*. Unpublished doctoral dissertation, University of Minnesota, Minneapolis.
- Lehr, C.A., Sinclair, M.F., & Christenson, S.L. (2002). *Addressing student engagement and truancy prevention during the elementary school years: A replication study of the Check & Connect model*. Manuscript submitted for publication.
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*(3), 227-238.
- Masten, A.S., & Coatsworth, J.D. (1998). The development of competence in favorable and unfavorable environments. *American Psychologist, 53*(2), 205-220.
- McPartland, J. M. (1994). Dropout prevention in theory and practice. In R. J. Rossi (Ed.), *Schools and students at risk: Context and framework for positive change* (pp. 255-276). New York: Teachers College Press.
- McWilliam, R. A., Tocci, L., & Harbin, G. L. (1998). Family centered services: Service providers' discourse and behavior. *Topics in Early Childhood Special Education, 18*, 206-221.
- National Center for Education Statistics. (2002). *Dropout rates in the United States: 2000* (NCES 2002-112). Washington, DC: U.S. Department of Education, Offices of Educational Research and Improvement (Institute of Education Sciences).
- National Education Goals Panel. (2002). *Interactive data center, your state data, California indicators, goal 2 school completion*, [Data file]. Available from <http://www.negp.gov>.
- President, Society of Hispanic Professionals of North Carolina. (2002, October 11). In Armas, G.C. Hispanic dropouts on the rise. *Concord Monitor Online*, Associated Press, from http://www.cmonitor.com/stories/front2002/1011_hispanic_2002.shtml.
- Rumberger, R.W. (1987). High school dropouts: A review of issues and evidence. *Review of Educational Research, 57*(2), 101-121.
- Rumberger, R.W. (1995). Dropping out of middle school: A multilevel analysis of students and schools. *American Educational Research Journal, 32*(3), 583-625.
- Rumberger, R.W., & Larson, K.A. (1998). Student mobility and the increased risk of high school dropout. *American Journal of Education, 107*(1), 1-35.
- Sinclair, M.F. (2001, December). *Persistence plus: Using check & connect procedures to improve service delivery and positive post-school outcomes for secondary students with serious emotional disturbance*. Final Report. University of Minnesota, College of Education and Human Development, Institute on Community Integration.
- Sinclair, M.F., Christenson, S.L., Evelo, D.L., & Hurley, C.M. (1998). Dropout prevention for high-risk youth with disabilities: Efficacy of a sustained school engagement procedure. *Exceptional Children, 65*(1), 7-21.
- Sinclair, M.F., & Kaibel, C. (2002, October). *Dakota county: Secondary check & connect program. Program evaluation 2002 final summary report*. University of Minnesota, College of Education and Human Development, Institute on Community Integration.
- Steinberg, L., Dornbusch, S.M., & Brown, B.B. (1992). Ethnic differences in adolescent achievement: An ecological perspective. *American Psychologist, 47*, 723-729.
- Thurlow, M., Christenson, S., Sinclair, M., Evelo, D., & Thornton, H. (1995). *Staying in school: Strategies for middle school students with learning & emotional disabilities*. Minneapolis, MN: University of Minnesota, College of Education and Human Development, Institute on Community Integration.
- Thurlow, M.L., Sinclair, M.F., & Johnson, D.R. (2002, June). *Students with Disabilities who drop out of school – implications for policy and practice* (Issue Brief Vol. 1, Issue 2). Minneapolis, MN: University of Minnesota, College of Education and Human Development, Institute on Community Integration, National Center on Secondary Education and Transition. Available from <http://www.ncset.org>.
- Wehlage, G. G., Rutter, R. A., Smith, G. A., Lesko, N., & Fernandez, R. R. (1989). *Reducing the risk: Schools as communities of support*. Philadelphia, PA: The Falmer Press.
- Wentzel, K.R. (1997). Student motivation in middle school: The role of perceived pedagogical caring. *Journal of Educational Psychology, 89*(3), 411-419.
- Weissberg, R.P., Gullotta, T.P., Hampton, R.L., Ryan, B.A., & Adams, G.R. (Eds.). (1997). *Establishing preventive services. Healthy children 2010: Issues in childrens' and families' lives, Volume 9*. Thousand Oaks, CA: Sage Publications.
- Zins, J.E., & Wang, M.C. (2001). Social-emotional learning and school success: Maximizing children's potential by integrating thinking, feeling, behavior. *The CEIC Review, 10*(6), 1-3, 26.

An Exploration of Meaningful Participation and Caring Relationships as Contexts for School Engagement

Greg Jennings

California State University, Hayward

The purpose of this article is two-fold; (1) to inform school psychologists of connections between models of school engagement, psychological needs, and strength-based assets and (2) to share data collected with the California Healthy Kids Survey (CHKS) to understand the relationships between academic performance and two environmental protective factors (caring relations and meaningful participation in school). Hypotheses and findings are presented to generate future research questions for study of strength-based measures and school engagement. This is one of the first studies examining the CHKS and academic outcomes. Participants were an ethnically and culturally diverse group of 229 7th-grade students. Results indicate that students with moderate Meaningful Participation in Schools (MPS) had higher Grade Point Averages (GPAs) than students with low MPS. Further, MPS was significantly related to caring peer and adult relationships in schools. Thus, results emphasize the importance of often-overlooked social-emotional contexts of school engagement. The article also discusses limitations of the study and proposes home and school support as an important focus for future research in school engagement.

Keywords: School engagement, Resiliency, Meaningful participation, Caring relationships, Cultural diversity

“We observe that, despite the overwhelming pressures in the environment, 75-80 percent of the children can use school activities as a support for healthy adjustment and achievement *when schools are sensitive to them and their burdens*” (Garbarino, Dubrow, Kostelny, & Pardo, 1992, p.121).

Most models of academic performance and school engagement have neglected the influence of social and emotional variables related to academic competence (Christenson & Anderson, 2002). However, recent national fervor over academic testing performance has rejuvenated interest in theory and investigation of student motivation and engagement in learning activities. School psychologists can learn from a number of models in the literature including those of psychological need (Ryan, 1995), participation and identification (Finn, 1997), and internal/external assets (Benard, 2002; Scales & Leffert, 1999). The primary purpose of this article is to present connections between these models and the school environment to promote student learning.

Learning requires a context. Lerner (1991) described development and change as the process of individual and environmental characteristics interacting, “Because change in the organism always occurs in dynamic connection with changes in the context (and vice versa), then change in organism-context relations are the basic change process in development” (p. 27). Individual characteristics, such as age and ethnicity, as well as school contexts (e.g., school climate, peer group characteristics, family support, and participation in extracurricular activities) can explain significant variance in risk behavior such as school misconduct, antisocial behavior, alcohol use, hard and soft drug use, and sexual activity

Please send correspondence regarding this manuscript to Greg Jennings, California State University, Hayward; College of Education; Educational Psychology; 25800 Carlos Bee Blvd.; Hayward, CA; 94542-3076 or e-mail gjenning@csuhayward.edu. The author wishes to thank the following graduate research assistants for their support in this project and their shared learning: Amy Cronin, Karrah Domoto, Sue Hyun, and Lauren La Plante.

(Perkins, Lerner, & Keith, 1996). The following sections highlight caring relationships and meaningful participation in school as contexts that promote academic development.

A Model of Psychological Need

Students are motivated to learn and develop because of a drive to satisfy three core needs: competence, autonomy, and relatedness (Ryan, 1995). A central question for educators is, "How are these needs targeted through relationships and participation?"

First, a sense of *academic competence* is fostered in relationships with adults as two important sources of academic resiliency are provided: opportunities to develop social emotional skills (e.g., emotional regulation, Gumora & Arsenio, 2002); and positive attitudes and beliefs (Baker, 1999). Further, DiPerna & Elliot (2002) present a model of academic competence that emphasizes learning enablers, such as motivation, interpersonal skills, and engagement as well as academic skills.

Second, a sense of *autonomy* emerges as students have the opportunity to commit to productive pursuits and to value the meaning of their time (Jordan & Nettles, 2000). Through adult support of school activities, students develop a sense of personal investment, "the process whereby people take certain resources - their time, talent, and energy - and distribute them as they choose" (Maehr & Braskamp, 1986, as cited in Jordan & Nettles, 2000, p. 219).

Third, a sense of *relatedness*, or secure connection with others, is a powerful academic motivator when social goals are aligned with the pursuit of social goals (Wentzel & Watkins, 2002). Students are more likely to be engaged in learning when schools help to connect achievement and affiliation needs (Wentzel, 1996). Further, learning experiences become more authentic and motivating when outside life experiences (e.g., peer and community relationships) are connected to learning experiences within school (Ares & Gorrell, 2002).

Participation-Identification Model of School Engagement

The Participation-Identification Model (Finn, 1989) provides one model for positive social and emotional experiences that emphasizes relationships and school engagement. In this model, students' academic performance, successful completion of K-12 schooling, and reduction of negative outcomes (e.g., drug use, teen pregnancy, and antisocial behavior) are mediated by "active participation in school and classroom activities and a concomitant feeling of identification with school" (Finn, 1989, p.123). Students' related feelings and experiences include attachment, commitment, and a sense of belonging. There is a commitment to caring peers and adults as well as to the place of learning, the school.

Participation includes the range of behaviors most associated with school engagement (e.g., reading, writing, and attending during learning experiences). Additionally, participation in sports, social activities, and school-sponsored events represent necessary but insufficient incentives and opportunities for students to maintain attendance and academic effort. Participation must also entail relevant learning content and opportunities. For example, diverse students who are at risk of disengagement because of stressors outside of school are much more engaged in learning when instruction is challenging, relevant, and academically demanding (Yair, 2000). Although participation, as a behavior, is related to academic success, it is difficult to understand this relationship without identifying psychological factors that enhance motivation and learning.

According to Finn (1997), identification is an internal state with two central components: internalized belongingness to the school environment (e.g., affiliation, attachment, and bond) and commitment (e.g., acceptance of academic values and value of school as an important place). This delineation of internal experiences and external context and action is important in formulating processes in which

the school environment supports students' experiences of school engagement. The following section applies internal and external strength, assets, to student development and learning.

Internal and External Assets

Over a decade ago the Search Institute conceptualized developmental assets as the opportunities, positive relationships, self-perceptions, values, and competencies that youth need to grow and succeed (Scales & Leffert, 1999). A model of assets emerged from longitudinal resiliency research of individual (internal) strengths and characteristics as well as social supportive (external) resources.

Youth need caring and responsive adults in schools to structure academic and social environments in order to have meaningful experiences in schools. Those positive relationships with adults and peers (external assets) provide opportunities to gradually build skills, competencies, and positive self-perceptions (Benson, Leffert, Scales, & Blyth, 1998). Thus, the school environment has a profound impact on the students' development.

Previously, Leffert, Benson, Scales, Sharma, Drake, and Blyth (1998) identified school engagement as an internal asset - a commitment to learning demonstrated through active engagement in learning. This asset was a negative predictor of school problems including skipping school and grade point averages below a "C." Further, it has been negatively associated with antisocial behaviors such as drug dealing.

In order to build upon resiliency models in schools, Constantine, Benard, & Diaz (1999) developed the California Healthy Kids Survey (CHKS). The CHKS is a theoretical and practical strength-based assessment of youth development in schools (Rhee, Furlong, Turner, & Harari, 2001). The Resiliency Module of the survey was based on the theoretical resilience framework that youth can attain academic success and healthy development in spite of stress and risk when home, school, and community environments meet their psychological needs (Benard, 2002). The following section presents a rationale for integrating and studying psychological need, engagement, identification and participation, in the context of meaningful participation and caring relationships in schools.

Investigating Meaningful Participation and Caring Relationships

School engagement requires a sense of autonomy, dignity, control and ownership, and belonging, the goals of a social, motivating school community (Osterman, 2000). Jordan & Nettles (2000) utilized National Education Longitudinal Study of 1988 (NELS:88; National Center for Educational Statistics, 1988) data to measure participation as the frequency and the depth of involvement in clubs and organizations in schools (e.g., leadership roles). Depth of involvement was moderately correlated with 10th-grade reading test performance.

The CHKS external asset of Meaningful Participation is a robust indicator of opportunities to develop these skills. "Meaningful participation is defined as the involvement of the student in relevant, engaging, and interesting activities with the opportunities for responsibility and contribution. Providing young people with opportunities for meaningful participation is a natural outcome of environments that convey high expectations" (Benard, 2002, p.9).

Perez (2000) describes an ethic of care as a core concern for the wellness of youth as persons as well as learners. This ethic is particularly important for ethnically and culturally diverse youth who are at considerable risk for becoming "invisible" and alienated in schools. Caring teachers, according to Perez, can encourage identification with school as well as engagement in learning. The emerging question for educators therefore becomes, "What do teachers do to promote this ethic of caring?" Four signature elements of caring include: (1) noticing students and checking into their well-being; (2)

making discussions relevant to students' experiences; (3) listening without judgment; and (4) inviting students to talk outside of class time (Schlosser, 1992 as cited in Perez, 2000).

Caring teacher and peer relationships are important factors in understanding student experiences of motivation to learn and achievement. Goodenow (1993) operationalized "Psychological Membership" as a sense of caring, support, acceptance, and respect in a study of achievement and motivation among 610 suburban middle school students. Results suggested that Psychological Membership was strongly related to achievement, as measured by grades. Given the construct's contribution to variance in motivation, the author proposes that Psychological Membership influences achievement indirectly through motivation. Results support the position that "A caring relationship with a teacher is perhaps the most powerful motivator for academic success" (Benard, 2002, p. 12).

Peer relationships are also significant influences on identification with school as well as with academic achievement. Despite some early, conflicting results of studies suggesting negative relations between pursuit of social goals and academic achievement, Wentzel (1996) reports consistently positive relations between pro-social pursuit of peer friendships and students' academic motivation and performance. In addition, the impact of caring relationships on academic performance continues beyond K-12 education and has been associated with academic success and persistence through college (Jones, 1992).

Considering the extant literature, the current study investigated six hypotheses:

1. Students who report high levels Meaningful Participation in School (MPS) have higher academic performance (grade point averages, GPA) than students who report low levels of meaningful participation.
2. Students who report moderate levels of Meaningful Participation in School (MPS) have higher academic performance (grade point averages, GPA) than students who report low levels of meaningful participation.
3. MPS will be positively correlated with Caring Peer Relationships in school.
4. MPS will be positively correlated with Caring Adult Relationships in school.
5. Caring Peer Relationships in schools will be positively correlated with GPA.
6. Caring Adult Relationships in schools will be positively correlated with GPA.

METHOD

Participants

This exploratory study included 229 7th-grade middle students from four middle schools in a diverse, urban Northern Californian school district. These students represented substantial African American, Filipino American, Latino American, and European American communities. The diversity of this group is evidenced by the fact that 73 of the participant selected more than one ethnicity when asked to identify their ethnic background. See Table 1 for frequencies of participants' ethnic self-identification responses. Each participant completed the California Healthy Kids Survey in the spring of 2000.

Instrumentation

California Healthy Kids Survey (CHKS; WestED, 2000). The CHKS (2000 version) consisted of three sections: *Core Module* - health (e.g., diet and exercise), general drug and alcohol use, general risk/behavior (e.g., theft, violence, vandalism, destruction of property, and gang membership), and safety; *Tobacco Supplement* (e.g., attitudes and use of cigarettes), and *Resiliency Module*. The Resiliency module was divided into three external assets: Caring Relationships, High Expectations, and

Table 1
Number of Participants' Ethnic Group Self-Identification Responses

Asian American	63
African American	61
Latino/ Hispanic	58
White/ Caucasian	57
Indian or Alaskan	14
Hawaiian	12
Other	37

Note. Subjects were able to identify more than one ethnic group Membership; thus, there are more self-identification responses (n=302) than there are participants (n=229).

Meaningful Participation. There were six areas of internal assets: Cooperation and Communication, Self-efficacy, Empathy, Problem Solving, Self-Awareness, and Goals and Aspirations.

The CHKS asset clusters were developed to improve upon Benson, Leffert, Scales, and Blyth's (1998) asset assessment constructs by increasing the number of response items and insuring consistently high alphas. Alphas were reported for Meaningful Participation in School (MPS), .67, Caring Peer Relationships in Schools, .80, and Caring Adult Relationships in School, .75 (Constantine et al., 1999). The following Resiliency Module items were utilized in the current study (responses to questions were 1: Not at all true; 2: A little true; 3: Pretty true; and 4: Very much true):

Meaningful Participation in School

- (1) I do meaningful activities at school
- (2) At school, I help decide things like class activities or rules
- (3) I do things at my school that make a difference.

Caring Relationships in School

Adults - At my school, there is a teacher or some other adult who...

- (1) cares about me;
- (2) notices when I'm not there;
- (3) listens to me when I have something to say.

Peers - I have a friend about my own age who...

- (1) really cares about me;
- (2) talks with me about my problems;
- (3) helps me when I'm having a hard time.

Procedure

Teachers sent informed consent permission letters to students to participate in the study. In addition to a school district letter that explained district-wide administration of the CHKS, the researcher sent a separate letter requesting permission for students to be a part of a resiliency research study.

The investigator collected archival school district data for the spring 2000 and Fall 2000 quarters' grade point averages (GPA). (Additional data, for a later longitudinal study, included background information such as participation in free/reduced lunch program and special educational participation as well as test results from the Stanford Achievement Test, Ninth Edition; Harcourt Brace, 1996).

Data Analyses

In preparation for data analysis, averages for Meaningful Participation in School (MPS) and Caring Peer and Caring Adult Relationship responses were calculated. Students' average MPS responses were transformed into high, medium, and low levels. Response averages below 2 were low level; response averages greater than or equal to 2 and less than 3 were moderate level; and response averages greater than 3 were high level. Grade point averages were calculated as the average of spring 2000 and fall 2000 grades. It should be noted that complete GPA and MPA data was available for 198 students.

Three analyses were conducted in this exploration of Meaningful Participation and Caring Relationships: two-tailed *t*-tests for levels of MPS and GPA, Pearson correlations between MPS and Caring Peer and Adult Relationships, and correlations between GPA and Caring Peer and Adult Relationships. All hypotheses were tested in the null and rejected at the .05 level of significance.

RESULTS

Hypothesis 1: Students with high levels of MPS did not have significantly higher GPA ($M = 2.50$, $SD = .96$) than students with low MPS ($M = 2.34$, $SD = .98$), $t(66) = .78$, $p = .43$. Therefore, the null hypothesis was not rejected.

Hypothesis 2: However, students with moderate levels of MPS had significantly higher GPAs ($M = 2.71$, $SD = .97$) than students with low MPS ($M = 2.34$, $SD = .98$), $t(129.70) = 2.36$, $p = .02$. Therefore, the null hypothesis was rejected.

Hypothesis 3: There were significant, positive correlations between MPS and Caring Peer Relationships in School $r(204) = .28$, $p < .001$ and Hypothesis 4: between MPS and Caring Adult Relationships in School $r(187) = .25$, $p < .01$. Therefore, the null hypothesis was rejected for each type of school relationship.

Hypothesis 5: There was a significant, positive correlation between GPA and Caring Peer Relationships in $r(209) = .21$, $p < .01$. Therefore, the null hypothesis was rejected. In contrast, the correlation between Hypothesis 6: GPA and Caring Adult Relationships in School was not significant $r(182) = .04$, $p > .05$. Therefore, this null hypothesis was not rejected.

DISCUSSION

Results of the current empirical exploration suggest that students with the social emotional experience of meaningful participation in school have higher GPAs than students who find little meaning in their school experiences. Further, there is support for positive association between meaningful involvement in school activities and the development of supportive relationships with peers and adults in schools. Caring relationships in schools are necessary for academic success in that students are more likely to pursue academic goals when they perceive emotional support and nurturance in school (Wentzel & Watkins, 2002).

The social skills developed in relationships and in active participation in schools are predictors of academic performance. Teacher perceptions of social skills were a stronger predictor of GPA than was academic ability (Seyfried, 1998). However, in the current study, Caring Peer Relationships, but not Caring Adult Relationships, were correlated with GPA. This finding was surprising, given previous writings and empirical support for the concept of caring adult relationships as external assets that foster resiliency (Benard, 2002; Benson, Leffert, Scales & Blyth, 1998). Thus, current findings raise further questions for future research.

The first question is, “Why were peer relationships, unlike caring adult relationships, significantly related to GPA?” Wentzel’s (1996) review of peer relationships and academic performance provides the clearest developmental response to this question. After transition to middle school, peers become primary sources of support and motivation to achieve while the quality of teacher-student relationships tends to decline with time (Wentzel, 1996). Concomitantly, there are declines in academic motivation and achievement (Midgley, Feldlauger & Eccles, 1989). From this developmental perspective, it is understandable that peer relationships would have a stronger relationship with academic performance than teacher relationships. Adolescents have rated relationships with teachers as significantly lower than parental and peer relationships in dimensions such as instrumental aid and nurturance (Lempers & Clark-Lempers, 1992).

A second question is, “What characteristics of peer relationships positively influence academic performance?” Wentzel (1996) identifies three powerful motives for positive peer influence on achievement: (1) need for social approval (e.g., praise and popularity); (2) identification with friends (e.g., desire to think and behave like friends); (3) self-enhancement (e.g., social comparison that motivates desire to improve skills). In contrast, negative characteristics of relationships, such as high levels of conflict and rivalry, are related to increased disruptive behavior and negative attitudes toward learning. Further, negative characteristics of close friendships may have stronger effects on individuals than positive characteristics (Berndt & Keefe, 1995). In the current study, students who reported high caring relationships with peers were likely to experience the positive motives in their peer relationships. Specifically, academic goals were more closely aligned with the pursuit of social goals when students had friends who talked to about their problems or helped when they are having a hard time.

Participants in the current study who reported caring relationships with adults in school had teachers who notice when students are not present and listen when students have something to say. These are important characteristics that promote instrumental support and positive classroom structure. However, current results suggest that the peer relationships have stronger connection to achievement, given their developmental importance in adolescence. Future research can clarify this issue by tracking the progression of connections between academic achievement and peer and adult caring relationships.

The finding that moderate levels of MPS (Meaningful Participation in School), not high levels, were positively correlated with GPA was another surprise, given previous support for MPS as an external asset (Benson, 1997; Benard, 2000). Therefore, a brief discussion of some cultural contexts for school participation may provide some explanation for the current findings. (See Ogbu & Simons (1994) for a model of cultural identity, academic achievement, and experience in school).

Participants of the current study live in diverse communities that provide opportunities for cross-cultural interactions through involvement in school activities (e.g., interest and culture clubs, sport teams, and student governance). Meaningful participation in such activities, however, implies a positive perception of involvement in the school institution. Some of the potential constraints to higher levels of perceived meaningful participation in school include the following: social isolation of language learners and perception of limited opportunities, particularly among Latino students (Conchas, 2001), familial value on academic activity over time spent on pursuing peer-related activities among Asian American students (Huan & Waxman, 1995), and experience of, social distance from traditional school activities (Cadwallader, Farmer, Cairns, Leung, Clemmer, Gut, and Reese, 2002), and perception that, experience outside of school is as important as activities within the school for African American students (Ogbu & Simons, 1998). There is no specific evidence that the current participants’ schools have failed to account for these constraints to participation; however, future strength-based assessments of student participation should consider these variables in order to study levels of importance or degree of belonging associated with MPS.

Limitations

Limitations in the current study include small sample size, non-random selection of participants, and loss of some cases due to incomplete CHKS surveys. These limitations are, in part, to be expected in an exploratory project. The process of developing a collaborative study with a school district and collecting data for a longitudinal study is an arduous task. However, the investigator gained considerable insight into middle school students' experiences of school through the survey data collection. The author therefore recommends that school psychologists consider utilizing the California Healthy Kids Survey as a tool to understand the needs and strengths of students. In particular, the external assets provide a picture of the opportunities for students to identify with school and connect with caring others. "Giving youth opportunities to participate in meaningful activities and roles in the classroom and school community helps engage their intrinsic motivation and innate ability to learn" (Benard, 2002, p. 14).

Future research should also investigate the relationships between support in home, school, and community environments (external assets) and students' individual strengths (internal assets). Without an understanding of the collective and individual influences of these sources of support, it is difficult for school psychologists to promote resilience at a systems level (Jennings & Ho, 2001).

REFERENCES

- Ares, N. & Gorrell, J. (2002). Middle school students' understanding of meaningful learning and engaging classroom activities. *Journal of Research in Childhood Education, 16* (2), 263-277.
- Baker, J.A. (1999). Teacher-student interaction in urban at-risk classrooms: differential behavior, relationship quality, and student satisfaction with school. *The Elementary School Journal, 100*, 57-70.
- Benard, B. (2002). *Resilience and youth development module report*. Sacramento, CA: WestED. Retrieved December 2, 2002, from www.wested.org.
- Benard, B. (1996). Fostering resiliency in urban schools. In B. Williams (Ed.) *Closing the achievement gap: a vision for changing beliefs and practices*. Alexandria, VA.: Association for Supervision and Curriculum Development.
- Benson, P. L., Leffert, N., Scales, P.C., & Blyth, D.A. (1998). Beyond the "village" rhetoric: creating healthy communities for children and adolescents. *Applied Developmental Science, 2*(3), 138-159.
- Benson, P.L. (1997). *All kids are our kids: What communities must do to raise caring and responsible children and adolescents*. San Francisco, CA: Jossey-Bass
- Berndt, T., & Keefe, K. (1995). Friend's influence on adolescents' adjustment to school. *Child Development, 66*, 1312-1329.
- Cadwallader, T.W., Farmer, T.W., Cairns, B.D., Leung, M.C., Clemmer, J.T., Gut, D.M., & Reese, L.E. (2002). The social relations of rural African American early adolescents and proximal impact of the school engagement project. *Journal of School Psychology, 40* (3), 213-237.
- Christenson, S. L., & Anderson, A. R. (2002). Commentary: The centrality of learning context for students' academic enabler skills. *School Psychology Review, 31*, 378-393.
- Conchas, G. (2001). Structuring failure and success: understanding the variability in Latino school engagement. *Harvard Educational Review, 71* (3), 475-503.
- Constantine, N., Benard, B., & Diaz, M. (1999). *Measuring protective factors and resilience traits in youth: The Healthy Kids Resilience assessment*. Paper presented at the Seventh Annual Meeting of the Society for Prevention Research, New Orleans, LA. June, 1999.
- DiPerna, J.C., & Elliot, S.N. (2002). Promoting academic enablers to improve student achievement: an introduction to the mini-series. *School Psychology Review, 31*, 293-297.
- Finn, J.D. (1997). Academic success among students at risk for school failure. *Journal of Applied Psychology, 82*, 221-234.
- Finn, J.D. (1989). Withdrawing from school. *Review of educational research, 59* (2), 117-142.
- Garbarino, J., Dubrow, N., Kostelny, K., & Pardo, C. (1992). *Children in danger: Coping with the Consequences of Community Violence*. San Francisco: Jossey-Bass.
- Goodenow, C. (1993). The psychological sense of school membership among adolescents: scale development and educational correlates. *Psychology in the Schools, 30*, 79-90.

- Gumora, G., & Arsenio, W.F. (2002). Emotionality, emotional regulation, and school performance in middle school children. *Journal of School Psychology, 40* (5), 395-413.
- Harcourt Brace Educational Measurement (1996). *Stanford Achievement Test, Ninth Edition*. San Antonio, Tx: Harcourt Brace.
- Huang, S. L., & Waxman, H. C. (1995). Motivation and learning environment differences between Asian-American and white middle school students in mathematics. *Journal of Research and Development in Education, 28* (4), 208-219.
- Jennings, R.G., & Ho, B.S. (2001). *An integrated service delivery model for systemic resiliency*. Paper presented at the Annual Convention of the California Association of School Psychologists, San Francisco, CA. March 10, 2001.
- Jones, C. (1992). Relationship of entering students' values to academic achievement and persistence in college. *College Student Journal, 24*(4), 353-355.
- Jordan, W.J. & Nettles, S.M. (2000). How students invest their time outside of school: Effects on school-related outcomes. *Social Psychology of Education, 3*, 217-243.
- Joyner, M. H. (1996). *The effects of perceived support and home environment upon children's school engagement*, Unpublished Dissertation, University of North Carolina at Chapel Hill, U.S.
- Lerner, R. (1991). Changing organism-context relations as the basic process of development: a developmental contextual perspective. *Developmental Psychology, 27*, 27-32.
- Leffert, N., Benson, P.L., Scales, P.C., Sharma, A.R., Drake, D.R., & Blyth, D.A. (1998). Developmental assets: Measurement and prediction of risk behaviors among adolescents. *Applied Developmental Science, 2* (4), 209-230.
- Lempers, J.D. & Clark-Lempers, D.S. (1992). Young, middle, and late adolescents' comparisons of the functional importance of five significant relationships. *Journal of Youth and Adolescence, 21*(44), 53.
- Midgley, C., Feldlauger, H. & Eccles, J. (1989). Student/teacher relations and attitudes toward mathematics before and after the transition to junior high school. *Child Development, 60*, 981-992.
- National Center for Educational Statistics (1988). *National Educational Longitudinal Study of 1988*. Washington, DC: National Center for Educational Statistics, U.S. Department of Education.
- Ogbu, J. & Simons, H. (1998). Voluntary and involuntary minorities: A cultural-ecological theory of school performance with some implications for education. *Anthropology & Education Quarterly, 29* (2), 155-188.
- Ogbu, J. & Simons, H. (1994). *Cultural Models of School Achievement: A Quantitative Test of Ogbu's Theory. Cultural Models of Literacy: A Comparative Study. Project 12*. Washington, DC: Office of Educational Research and Improvement.
- Osterman, K.F. (2000). Students' needs for belonging in the school community. *Review of Educational Research, 70* (3), 323-367.
- Perez, S.A. (2000). An ethic of caring in teaching culturally diverse students. *Education, 12*, 102-105.
- Perkins, D.F., Lerner, R.M., & Keith, J.G. (1996). *Individual and contextual variables related to risk behaviors and resiliency among diverse youth*. Presented at the 1995 Annual Conference of the National Council on Family Relations, Portland, Oregon.
- Rhee, S., Furlong, M.J., Turner, J.A., & Harari, I. (2001). Integrating strength-based perspectives in psychoeducational evaluations. *The California School Psychologist, 6*, 5-17.
- Ryan, R.M. (1995). Psychological needs and facilitation of integrative process. *Journal of Personality, 63* (3) 397-427.
- Scales, P.C., & Leffert, N. (1999). *Developmental assets: a synthesis of the scientific research on adolescent development*. Minneapolis: Search Institute.
- Seyfried, S. (1998). Academic achievement of African American preadolescents: The influence of teacher perceptions. *American Journal of Community Psychology, 26*, 381-402.
- Wentzel, K.R. (1996). Social goals and social relationships as motivators of school adjustment. In J. Juvonen & K.R. Wentzel (Eds.), *Social motivation: Understanding children's school adjustment*. Cambridge: Cambridge University Press.
- Wentzel, K. R., & Watkins, D. E., (2002). Peer relationships and collaborative learning as contexts for academic enablers. *School Psychology Review, 31*, 366-377.
- WestEd (2000). *California Healthy Kids Survey*. Los Alamitos, CA: WestEd.
- Yair, G. (2000). Educational battlefields in America: the tug-of-war over students' engagement with instruction. *Sociology of Education, 73*, 247-269.

A Factor Analysis Exploring School Bonding and Related Constructs Among Upper Elementary Students

Stacy L. O'Farrell and Gale M. Morrison
University of California, Santa Barbara

Since Hirschi's (1969) seminal work with delinquent youths, researchers have included school bonding and related constructs in analyses of delinquency, school dropout, student motivation, risk and resiliency, and academic achievement. In addition to school bonding, researchers have studied school engagement, school attachment, school connectedness, and other constructs as they relate to various student outcomes. At times, these constructs are measured and defined quite similarly, if not identically. However, in other instances, identical terms have been used to describe a construct that is measured in vastly different ways. These redundancies and discrepancies make it difficult to draw conclusions and build upon the summative knowledge gleaned from the extant school bonding research. In this article, research studies that use school bonding or a related construct (e.g., school engagement) are reviewed, with a specific focus on definition and measurement. A factor analysis was conducted using selected survey items from various school bonding and related measures, yielding five factors. The unique and shared aspects of these factors are discussed as well as implications for school practice and future research.

Keywords: School bonding, School engagement, Factor analysis

Student bonding to school has been identified as a variable that affects numerous educational and social outcomes for students. Associations have been found between low levels of school bonding and related constructs and *delinquency* (Anderson, Holmes, & Ostresh, 1999; Hawkins et al., 2001, Joseph, 2002; O'Donnell, Hawkins, & Abbott, 1995), *substance use* (Hawkins et al.; Hoppe et al., 1998; O'Donnell et al.), *early sexual activity* (Hawkins et al.), *low school achievement* (Abbott, O'Donnell, Hawkins, Hill, Kosterman, & Catalano, 1998; Anderman & Anderman, 1999; Connell, Spencer, & Aber, 1994; Gutman & Midgley, 1998; Hawkins et al.; Heaven, Mak, Barry, & Ciarrochi, 2002), *school dropout* (Rumberger & Larson, 1998), *low school motivation* (Goodenow & Grady, 1994), and *low school competence* and *poor social and emotional adjustment to school* (Murray & Greenberg, 2001). Various terms have been used to describe and measure school bonding and related constructs including school engagement, school connectedness, school involvement, attitude toward school, commitment to school, student engagement, and school belonging. Between and within the various literatures that include school bonding and related constructs, there exists great variability in both their definition and measurement. In some instances, two authors may use the same variable term (e.g., school engagement), yet they may measure the construct differently. This lack of consistency creates difficulty in interpreting and building upon the existing research that includes school bonding and related constructs, also creating difficulty for practitioners in their attempts to assess and facilitate student bonding and engagement in the schools. Overlapping terms and measurements have become problematic, thus creating the impetus for this study.

Delinquency Origins of “School Bonding”

School bonding has its origins in the delinquency literature with the work of Hirschi (1969) and his theory of social control. Hirschi posits that individuals commit crimes as a result of weak social bonds, which he defines as including attachment, commitment, involvement, and belief. Of fundamental importance in this theory is the attachment youths have to their parents, peers, and to school. The less attached one is to his or her parents, the primary socializing agents, the more likely the youth is to start on a path of delinquency. In describing the concept of attachment or bonds to school, Hirschi (1969) originally used the terms interchangeably. He states that the link between ability and performance and delinquency is the student’s bonds to the school (i.e., attachment). “Attitude toward school” is also used in his original work as a descriptor of this construct.

In measuring attachment to school, Hirschi used items such as: “In general, do you like or dislike school?” “How important is getting good grades to you?” and “Do you care what your teachers think of you?” Similar items have been used by other researchers in the delinquency field, yielding negative relationships between attachment to school and involvement in delinquent behavior (Anderson, Holmes, & Ostresh, 1999; Hoppe et al., 1998). Building upon Hirschi’s (1969) work, Hawkins and his colleagues developed the social development model (Hawkins, 1997; Hawkins & Lishner, 1987). The social development model incorporates the summative knowledge gleaned from studies using Hirschi’s model, which indicated that bonds with *prosocial* others (including peers and institutions such as school) was associated with lower levels of delinquency. This finding deviated from Hirschi’s original theory stating that bonds, whether with prosocial or delinquent youths would prevent delinquency. Hawkins and his colleagues (2001) found that, “attachment, a positive emotional link, and commitment, a personal investment in the group (p. 225)” are essential elements of social bonds (including bonds to school).

In measuring bonding to school, Hawkins and his colleagues created *The School Bonding and Achievement Scale* (SBAC). This scale was used in a study investigating predictors of serious delinquency and substance use in boys characterized as aggressive (O’Donnell et al., 1995). The SBAC included eight items representing attachment and commitment to school. Example items include, “I do extra work on my own in class,” and “Most mornings I look forward to going to school.” When Hawkins began investigating this construct, he used “school bonding” as the primary term to describe Hirschi’s original work, and developed the SBAC based on Hirschi’s original items.

While many of the delinquency studies that include school bonding as a variable utilize two or more items that resemble those used by Hawkins and his colleagues (e.g., Dornbusch, Erikson, Laird, & Wong, 2001; Hoppe et al., 1998; Joseph, 2002; Newmark-Sztainer et al., 1997; Simons-Morton et al., 1999), there have been some deviations. For example, Ellickson and her colleagues (Ellickson & McGuigan, 2000; Ellickson & Morton, 1999) have used school-level markers such as grades and the number of elementary schools a child has attended as measures of bonds to school.

Additional deviations have been found in the measurement of school bonding in evaluation studies of prevention programs. Kumfer, Alvarado, Tait, and Turner (2002) found a significant increase in school bonding in their evaluation of Project SAFE, a school-based family and student skills training program for substance abuse prevention. To measure school bonding, these researchers used the Attitude Toward School and Teacher scales from the *Behavioral Assessment for Children* (BASC), along with the Parent Report on School Climate, and the Parent and Teacher Involvement Questionnaire. In an evaluation of Project STAR, a substance abuse prevention program that was implemented with rural Head Start children and families, Kaminski, Stormshak, Good, and Goodman (2002) compared three groups of children and found that after one year of involvement in the program, there was a significant

increase in school bonding among the children who were involved in Project STAR. The *Parent-Teacher Involvement Questionnaire* (PTIQ) was also used in the Kaminski et al. study to measure school bonding. Example items from the PTIQ include, “How much is this parent interested in getting to know you?” and “How involved is this parent in his or her child’s education and school life?” Dornbusch, Erickson, Laird, and Wong (2001) investigated change in levels of school connectedness (also referred to as school attachment) in a sample of adolescents in order to determine whether such changes would have an effect on delinquency behavior. Dornbusch and his colleagues used items that tapped the students’ affective relations toward the school, the degree with which students felt they got along with teachers and peers, and whether or not the students care about what their teachers think of them.

In summary, the delinquency literature has used the following terms, sometimes interchangeably, to describe student bonds to school: school bonding, school attachment, attitude toward school, school connectedness and school commitment. These constructs have been measured most often with items that can be traced back to Hirschi’s (1969) original work with delinquent youth. However, as can be seen by the above review, alternative means of measurement have been used as well, including grades and school attendance (Ellickson & Morton, 1999; Ellickson & McGuigan, 2000), and parent and teacher report of student behavior (Kaminski, Stormshak, Good, & Goodman, 2002; Kumfer, Alvarado, Tait, & Turner, 2002).

School Dropout and School Bonding

School dropout is a field of research that has identified a related construct (school engagement) as a significant predictor of student outcomes. Finn (1989), in his review of school withdrawal, posited a model incorporating school engagement (or lack thereof) as part of a process of school withdrawal that begins well before the child drops out of school. Finn’s model of school engagement is known as the Participation-Identification model (1989), and posits that engagement to school consists of two primary dimensions, a behavioral element (participation), and an emotional element (identification). Participation in school includes behaviors such as responding to requirements, class-related initiative, partaking in extra-curricular activities, and decision making; whereas identification with school includes having feelings of belonging to school and valuing school itself (Finn). Finn has measured school engagement by using variables that capture these elements of participation and identification (Finn, Pannozzo, & Voelkl, 1995; Finn & Rock, 1997; Finn & Voelkl, 1993). These variables include teacher reports of attendance, nonengagement (i.e., homework completion, inattention, and disruption), preparation, and behavior (i.e., number of office referrals).

Finn’s model is widely used to conceptualize the role school engagement plays in dropping out of school (Finn & Rock, 1997; Finn & Voelkl, 1993; Rumberger & Larson, 1998; Sinclair & Christenson, 1998), as such, the measurement of this construct in school dropout studies follows in the tradition described above. For example, Rumberger and Larson, in their study of student mobility as it relates to dropping out of school, used absenteeism, self-reported misbehavior, self-reported participation in extra-curricular activities, self-reported expectations of finishing high school, and self-reported class preparation level. Also following Finn’s model of engagement, Sinclair, Christenson, Evelo, and Hurley (1998) measured what they called school participation with the following markers: year-end enrollment status, pattern of attendance over time, teacher ratings of assignment completion, school performance (i.e., accrual of credits), academic competence, problem behavior, and school identification (i.e., survey items aimed at measuring student perception of the relevance of school and their expectation to graduate). Variation within the previously mentioned school dropout studies includes the source of data collection (e.g., teacher versus student report) and the presence of identification with school variables (as measured by student report). Although identification with school is posited as the second

dimension of school engagement according to Finn, it was not measured in some studies described above (Finn & Rock; Finn & Voelkl; Rumberger & Larson). This may contribute to confusion because the construct measured was described as school engagement as opposed to school participation, which it appeared to more accurately represent.

Motivation, Risk and Resilience, and School Bonding

Student motivation and risk and resilience research also incorporate the use of school bonding and related measures in predicting student outcomes (Anderman & Anderman, 1999; Gutman & Midgley, 1998; Morrison, Robertson, & Harding, 1998; Robertson, Harding, & Morrison, 1998). Often the purpose of investigating student motivation is to better understand academic achievement and its correlates. Some theorists who examine student motivation (e.g., Eccles, 2002; Murdock, 1999; Ryan, 2000; Wentzel, 1999) incorporate feelings of belonging at school as part of their theoretical framework. For example, Wentzel utilizes a developmental framework in understanding student motivation at school. As part of this developmental framework, the degree to which a student feels a sense of "social belongingness and relatedness" will influence the likelihood that the student will pursue the goals that are valued in the school context. Indeed, it is believed that a sense of community or belonging to school satisfies a primary psychological need that, in turn, leads to the possibility of academic engagement and achievement (Ryan, 1999).

It is from the motivation literature that one of the most widely used measures of school belonging, the *Psychological Sense of School Membership Scale* (PSSM; Goodenow, 1993) was developed. Carol Goodenow's work borrows from many traditions, including Finn's (1989) model of school engagement and Maslow's (1969) framework of psychological needs. Finn's model serves as the primary framework guiding the development of her scale (Goodenow, 1993), and she posits that school belonging influences motivation, effort, participation, and eventually achievement. Although not stated explicitly, Goodenow's school belonging construct appears to represent Finn's element of identification. Example items included in the measure are as follows: "I feel like a real part of this school," "Most teachers at this school are interested in me," "I feel proud of belonging to this school," and "I am included in lots of activities at this school."

Other indicators used to measure bonding to school and related constructs from the motivation literature include behavioral ratings of school alienation (Murdock, 1999), and a measure of student engagement created by Wellborn (as cited in Skinner & Belmont, 1993) consisting of items developed to tap student emotions and behaviors at school. Example items from the Wellborn measure include: "When I'm in school, I feel happy" and "When I have trouble understanding something, I give up."

A majority of the motivation and risk and resilience studies reviewed that examined school belonging used the PSSM (Goodenow, 1993; e.g., Anderman & Anderman, 1999; Gutman & Midgley, 1998; Morrison, Robertson, & Harding, 1998; Robertson, Harding, & Morrison, 1998). One exception includes the work of Jessor, Turbin, and Costa (1998), who used 14 items to assess attitude toward school, propensity for dropping out, and self-reported grades as a measure of student engagement. Example items from the Jessor et al. study include: "How do you feel about going to school?" and "My classes at school help me learn things I'll need to know later in life."

School engagement, student engagement, school belonging, and school bonding are all terms that are used in the motivation and risk and resilience literatures to describe what is often measured with Goodenow's (1993) measure, the PSSM. These constructs, although depicted with different terminology, are arguably the same construct, as they are being measured either with the same instrument or are assessed with items that are similar if not identical. School engagement, for example, as measured by

Jessor, Turbin and Costa, resembles Hawkins's (1987) school bonding more than Finn's (1989) description of school engagement, when one examines its measurement at the item level. These associations will be empirically examined in this study.

The Need for Consensus

As can be seen in this brief review of the existing literatures involving student bonding to school (and related constructs), their definition and measurement varies greatly within and among the research traditions. This problem is not new, and has been discussed explicitly by multiple researchers (e.g., Finn, 1989; Mouton, Hawkins, McPherson, & Copley, 1996); however, movement toward conceptual consensus has been slow.

Further complicating the school bonding and related measurement issues, when individual items from scales purported to measure school bonding or related constructs are examined, similarities are found between bonding items and measurements of other social emotional constructs. For example, scales used to measure self-concept (Marsh & Smith, 1987), social support (Dubow & Ullman, 1989), class participation (Berndt & Miller, 1990), and school importance (East, 1996), all utilize items that are similar to the items and indicators used to measure bonding to school.

As can be seen in Table 1, some items that are used to measure constructs such as self-concept and class participation mirror items that are used in school bonding and engagement measures. Also indicated in Table 1 is the term used by the author to describe the scale from which the sample item is derived. It can be seen in Table 1 that the term used to describe the construct being measured sometimes varies between authors.

An examination of the school bonding related literatures reviewed above also reveals interesting similarities and differences among the various conceptualizations of the described constructs. From the delinquency literature, we glean a two-dimensional understanding of school bonding that includes attachment and commitment. Finn (1989) also suggests a two-element model, one element that represents a psychological aspect (i.e., identification, which may actually be a combination of affect and values/beliefs), and another element that represents a behavioral aspect (participation). Wellborn's school engagement measure taps into an emotional and behavioral dimension. Murdock's (1999) conceptualization of student engagement includes a unique fourth dimension - alienation. Alienation is also observed when measures of school belonging are examined at the item level. For example, the PSSM includes the items: "It is hard for people like me to be accepted here" and "Teachers here are not interested in people like me." The question remains as to whether the alienation construct is qualitatively distinct from a psychological element as described by Finn (identification) and Hirschi (bonds to school).

An emerging component of the literature investigating school bonding and related constructs is the evaluation of prevention programs. Parent-child relationships as they relate to behaviors and values regarding education appear to be highly related to student beliefs about the importance of school and their endorsement of items purported to measure school bonding (Dornbusch, Erickson, Laird, & Wong, 2001; Kaminski, Stormshak, Good, & Goodman, 2002; Kumfer, Alvarado, Tait, & Turner, 2002). In summary, it appears as though researchers have tapped at least three dimensions of school bonding and related constructs. These dimensions include an emotional dimension of attachment or identification (with peers and with the system as a whole), a behavioral dimension (participation), and a sense of valuing school (commitment).

Without a clear model of this construct (or constructs), it is difficult to make sense of the literature thus far. There exist numerous terms that appear related: for example, school bonding, school engage-

Table 1
Example item pairs

Item used in analysis	Items matched from the literature/Term used; Author
<i>Psychological Sense of School Membership (Goodenow, 1993)</i>	
I feel like a real part of this school	I feel like a real part of this school (School belonging; & Midgley, 2000) Do you feel like a part of your school? (School connectedness; Dornbusch, Erickson, Laird & Wong, 2001)
I can really be myself at this school	I can be myself at this school (Commitment; Brown, Leigh & Barton, 2000)
I wish I were in a different school	Are you happy to be at your school? (School connectedness; Dornbusch, Erickson, Laird & Wong, 2001)
Sometimes I feel as if I don't belong here	I feel like I belong at this school (Belonging; Brown, Leigh & Barton, 2000)
I am treated with as much respect as other students	Students of all ethnic groups are respected (Belonging; Brown, Leigh & Barton, 2000) Do the teachers at your school treat students fairly ? (School connectedness; Dornbusch, Erickson, Laird & Wong, 2001)
There's at least one teacher or other adult in this school I can talk to if I have a problem	Adults at this school listen to students' concerns (School connectedness; Brown, Leigh & Barton, 2000) There is a teacher at my school that I can count on when I have a problem (Affiliation with teacher; Murray & Greenberg, 2001)
Most teachers at this school are interested in me	Teachers typically want to know what I think about things (Teachers' academic support and expectations; Murdock, 1999) Teachers understand students (Attitude toward school; Hirshi, 1969) Teachers understand students (Attitude toward school; Anderson, Holmes & Ostresh, 1999)
The teachers here respect me	Teachers pick on me (Attitude towards school; Hirshi, 1969) My teachers respect my feelings (Affiliation with teacher; Murray & Greenberg, 2001)
Teachers here are not interested in people like me	Teachers are interested in students (School community; Finn & Voelkl, 1993) My teachers pay a lot of attention to me (Affiliation with teacher; Murray & Greenberg, 2001) How much do you feel that teachers care about you? (School connectedness; Dornbusch, Erickson, Laird & Wong, 2001)
People at this school are friendly to me	People care about each other in this school (Caring and <i>supportive relationships</i> ; Battistich, Solomon, Kim, Watson, & Schaps, 1995).

Table 1 (continued)

People here know I can do good work	Do your teachers think you are a good student? (<i>Support of competence</i> ; Roeser, Eccles & Sameroff, 1998)
<i>Social Support (Dubow & Ullman, 1989)</i>	
How often do people say things that make you feel good, happy, or important?	Do you feel close to people at your school? (<i>School connectedness</i> ; Dornbusch, Erickson, Laird & Wong, 2001)
<i>Self Concept (Marsh & Smith, 1987)</i>	
I have lots of friends	I have friends at this school (<i>Commitment</i> ; Brown, Leigh & Barton, 2000)
I learn things quickly in all school subjects	I feel sure about how to do my work at school (<i>Bonds with school</i> ; Murray & Greenberg, 2001)
I am interested in all school subjects	When we start something new in school, I feel interested (<i>Emotional engagement</i> ; Skinner & Belmont, 1993)
I look forward to all school subjects	Most mornings I look forward to going to school (<i>School bonding</i> ; Hoppe et al., 1998; Hawkins et al., 2001)
Work in all school subjects is easy for me	When I get stuck on a question, I can usually get it (<i>Behavioral engagement</i> ; Skinner & Belmont, 1993)
I like all school subjects	I like my classes this year (<i>School bonding</i> ; O'Donnell, 1995) Do you like or dislike school (<i>Attachment to school</i> ; Hirschi, 1969)
<i>Class Participation (Berndt & Miller, 1990)</i>	
How often do you take part in class discussions?	I participate in class discussions (<i>Student engagement</i> ; Skinner & Belmont, 1993) I like to take part in class discussions and activities (<i>Bonds with school</i> ; Murray & Greenberg, 2001)
How often do you do extra work on your own?	I do extra schoolwork on my own (<i>School bonding</i> ; Hawkins et al., 2001)
How often do you pay attention to what your teachers are saying?	My mind wanders when my teacher starts a new topic (<i>Behavioral engagement</i> ; Skinner & Belmont, 1993)
How often are you bored with your schoolwork?	When we start something new in school, I feel interested (<i>Emotional engagement</i> ; Skinner & Belmont, 1993).
How often do you get your homework done?	How often do you complete your homework? (<i>Attitude toward school</i> ; Heaven, Mak, Barry, & Ciarrochi, 2002)
How important is it to your father that you go to college?	My parents say I need an education to get a good living (<i>Economic value of education</i> ; Murdock, 1999)

ment, and school belonging. When examined in terms of their measurement, at the item level, these constructs are nearly indistinguishable. Furthermore, this review has highlighted the fact that items used to measure the various constructs of school engagement include items that parallel other constructs such as self-concept, social support, school participation, school attitudes, and parent involve-

ment. Building consensus about the elements of school bonding will require demonstrating their divergent validity with respect to related constructs.

The purpose of the present analyses are twofold, to (a) factor analyze items that have been used in the measurement of school bonding and related constructs in order to determine whether, collectively, this construct is unidimensional or multidimensional; and (b) propose a factor structure that future researchers can test with larger and more diverse samples. In taking these steps, it is hoped that future studies will investigate school bonding and its related constructs with greater specificity and consistency, so as to facilitate intervention and prevention programs in the schools.

It is hypothesized that the factor analysis will yield three to six factors. Given the terms used by researchers, there should be three to six factors to adequately describe the school bonding construct. In order to test this hypothesis, exploratory factor analysis was conducted and factor solutions with three, four, five and six factors were compared in order to determine the best model fit.

METHOD

Sample

The sample included 543 students in grades 4–6 who participated in one school district's prevention programs. The surveys were part of pretest data collected during the 1997-1998 school year. The sample was predominantly Latino/a (78%) with 15% Caucasian, 3% African American, 1.6% Asian American, and 0.5% American Indian. The sample was split between gender with males representing 48.6% and females representing 51.4% of students. Fifty-five percent of students in the district from which this sample was taken receive free or reduced priced meals. Statistical analyses for the present study were conducted using listwise exclusion for missing data across a sizeable number of variables, resulting in 231 cases for final analysis. Demographic data from the final sample did not differ from that of the original sample.

Instruments

As a first step in understanding literature involving school bonding and related measures, such measures were obtained from published articles or from original author(s). For the purposes of the present study, items were collected from measures that have been used to assess the broad construct of school bonding as well as school engagement and related constructs.

Items from the various school bonding and related measures were then paired with items from scales measuring self-concept, social support, class participation, future aspirations, school belonging, and parent supervision. Items were only included in the present analysis if they were determined to be equivalent in meaning to items that have been used to measure school bonding and related constructs in the literature.

In addition, items that tapped student perception of parent supervision of homework activities were included. These items were included in order to test the hypothesis that parent behaviors related to their child's education were related to student bonding to and engagement in school. Table 1 provided examples of the parallels between school bonding and related measures and measures of other constructs that assess personal and social perceptions and attitudes.

Items were included from six instruments that purport to measure school belonging, social support, self-concept, class participation, future aspirations, and parent supervision. Negatively worded items (e.g., "I hate all school subjects"), and items that contained a response format that was reversed (e.g., 1=Always) were reversed prior to analysis such that a higher rating would equal *more* school bonding, and are indicated in italics on Table 2.

School Belonging. This was measured with the *Psychological Sense of School Membership* scale (PSSM; Goodenow, 1993). The PSSM consists of 18 items, all of which were included in this factor analysis. The response format for these items was a five-point Likert scale from (1) false to (5) true. Reliability (alpha) for this scale in the current sample was .83.

Social Support. Four of six items were taken from a social support scale (Dubow & Ullman, 1989) and in this sample the reliability was .58. This scale is composed of questions with responses ranging from (1) always to (5) never.

Self-Concept. Self-concept was assessed using a questionnaire created by Marsh and Smith (1987). Two of eight scales were included in the present analyses: (a) the *Peer Relations* scale, and (b) the *General School* scale. Items on these scales are statements to which students are asked to respond on a scale ranging from (1) false to (5) true. Reliability coefficients are as follows: .78 (Peer Relations scale), .81 (General School scale).

Class Participation. Participation in school was measured through the use of a five-item scale developed by Berndt and Miller (1990). Students respond to a five-point Likert scale with responses ranging from “most of the time” to “never.” This scale yielded an alpha coefficient of .44 in the current sample.

Future Aspirations. Students responded to eight items measuring the importance of school as it relates to future aspirations. Response format for each of the items included a four-point Likert scale ranging from “Very” to “Not at all,” or from “Yes” to “No.” The items were selected from a scale developed to measure adolescents’ attitudes, expectations, and behaviors (East, 1996) and yielded a reliability coefficient of .98 for this sample.

Parent–School Supervision. Parent supervision was measured by two items from the National Educational Longitudinal Study Survey that investigated the frequency with which a parent checked on homework completion and made the student do work at home. Questions are answered on a four-point scale ranging from “most of the time” to “never.” The internal reliability on this scale was .61.

Procedures

Program valuation studies were conducted on one school district’s prevention programs designed to provide after-school activities and homework support and family support between the years of 1996-1998 in the central California region. These studies were designed to address a common framework of how risk and resilience indicators changed as a function of the programs and intervention. Thus, a number of social, personal, and school attitude variables related to school bonding were included in the research design (see measure descriptions above). A goal of the present study was to explore the factor structure of all possible relevant items taken together.

RESULTS

Exploratory factor analysis with maximum likelihood factoring extraction method was utilized with oblique rotation (i.e., direct oblimin) for the current analyses. Oblique rotation was employed because it was expected that the resulting factors would be correlated to a certain degree. In other words, as it is believed that there exists a broad underlying construct that relates the hypothesized three to six dimensions, oblique rotation was utilized. Orthogonal rotation, had it been used, mathematically forces factors to separate, which we felt was inappropriate for the purposes of this study.

As a first step, factor analysis was conducted without restricting the solution to a given number of factors, which yielded a solution with 13 factors. However, this solution did not converge. Factor analysis was conducted with solutions restricted to 3, 4, 5, and 6 factors, of which only the 3-, 4-, and 5- factor solutions converged. Because the 6-factor solution did not converge (i.e., a solution was not

Table 2
Scales/Items used for factor analysis

Psychological Sense of School Membership (Goodenow, 1993)	Self Concept (Marsh & Smith, 1987)
<p>I feel like a real part of this school People here notice when I am good at something <i>It is hard for people like me to be accepted here</i> Other students in this school take my opinions seriously Most teachers at this school are interested in me Sometimes I feel as if I don't belong here There's at least one teacher or other adult in this school I can talk to if I have a problem People at this school are friendly to me <i>Teachers here are not interested in people like me</i> I am included in lots of activities at this school I am treated with as much respect as other students <i>I feel very different with most other students here</i> I can really be myself at this school The teachers here respect me People here know I can do good work <i>I wish I were in a different school</i> I feel proud of belonging to this school Other students here like me the way I am</p>	<p>I have lots of friends I enjoy doing work in all school subjects I make friends easily I get good marks in all school subjects <i>Most kids have more friends than I do</i> <i>I hate all school subjects</i> I get along with other kids easily I learn things quickly in all school subjects I am easy to like I am interested in all school subjects Other kids want me to be their friend <i>I am dumb in all school subjects</i> I have more friends than most other kids I look forward to all school subjects I am popular with kids my own age Work in all school subjects is easy for me Most other kids like me I like all school subjects</p>
Social Support (Epstein & McKelvey, 1996)	Future Aspirations (East, 1996)
<p><i>When you want to learn how to do something new, how often does someone teach it to you?</i> <i>How often do people say things that make you feel good, happy, or important?</i> <i>Do you think your friends care about you?</i> Do your friends make you feel bad?</p>	<p><i>How important is it to you to finish high school?</i> <i>How important is it to you to go to college?</i> <i>How important is it to you to be successful in a job or career?</i> <i>How important is it to your mother that you go to college?</i> <i>How important is it to your father that you go to college?</i> <i>Do you think you will finish high school?</i> <i>Do you think you will be successful in a job or career?</i></p>
Class Participation (Berndt & Miller, 1990)	Parent Supervision (NELS:88)
<p><i>Do you think you will finish college?</i> How often do you take part in class discussions? How often do you do extra work for school on your own? How often do you pay attention to what your teachers are saying? How often are you bored with your schoolwork? How often do you get your homework done?</p>	<p>How often do your parents or guardians do the following: Check on whether I did my homework How often do your parents or guardians do the following: Make me do work or chores at home</p>

Note. Negatively worded items, and items that contained a response format that was reversed (e.g., 1=Always) were reversed prior to analysis such that a higher rating would equal *more school bonding*

determined after twenty-five iterations), the potential problem of items loading in their original scales was eliminated; that is, they all measured relatively unique constructs.

Fabrigar, Wegener, MacCallum, and Strahan's (1999) recommendations were considered in determining the optimal number of factors. Eigenvalues were evaluated, the scree plot was examined, a measure of model fit was calculated for each model, and each solution was compared in light of existing theory. Each solution was evaluated based on the aforementioned criteria before determining a final solution. The Root Mean Squared Error of Approximation (RMSEA) value (a measure of model fit) was calculated for each model. Model A (three factors) accounted for 37.1% of the total variance and resulted in a RMSEA of .059, Model B (four factors) accounted for 40.7% of the variance and resulted in a RMSEA value of .054, and Model C (5 factors) yielded the best model fit (.049), accounting for 43.2% of the total variance. RMSEA values of $< .05$ indicate close fit, suggesting that the current factor structure fits the data well. In addition to the close model fit, Model C resulted in factors that could be interpreted with the greatest ease theoretically, as will be discussed in a later section. For these reasons, it was determined that Model C (5 factors) was the best solution for these data.

Factor Structure of School Bonding

Table 3 displays the factor loading and communalities for the salient items (factor loading $> .30$), as well as eigenvalues and the percent of variance accounted for by each factor. Note that a few items loaded onto more than one factor, not an unexpected result given the conceptual overlap of the items and the large number of items included in the analysis. Those loadings are displayed in Table 3 as well.

For the purposes of the present study, we did not attempt to name the factors that resulted from the factor analysis. We feel that further research must be conducted and the factor structure confirmed before additional terms be introduced to this already term-saturated field and there is no convincing rationale to promote one label over another. Therefore, the general pattern of items that clustered in each of the factors will be described, particularly as they relate to the shared and unique contributions of each school bonding related scale. Correlations between the factors can be found in Table 4.

As shown in Figure 1, the items did not reorganize themselves into their original scales. Many of the items were disbursed among the five factors in patterns that indicate distinct dimensions of a more broad school bonding or engagement variable. When each of the items is examined, patterns emerge with regard to the item content. This will be discussed further in a later section.

DISCUSSION

The present results shed light on student bonds with and engagement in school. In our initial investigation of the literature, parallels emerged between the items that were used to measure student bonds to school and related constructs (i.e., school engagement, school attachment) and measures used to examine personal, and social functioning and attitudes toward school. This finding emphasizes the importance of closely examining the items of various measures in order to confirm the face validity of what students are responding to in a given scale. Through the course of this study, we found that there is a good deal of overlap among measures of the previously mentioned constructs. This finding leads us to question the specificity of existing measures of school engagement and related constructs, at least of upper elementary-aged students. Perhaps there are multiple dimensions of school engagement, and should these dimensions become accessible through the use of more specific measures, researchers and practitioners may be provided with additional avenues through which to understand the complexity of student bonds with school. Eventually, these bonds may be facilitated and enhanced through intervention.

Table 3
Items, Eigenvalues, % of Variance, Factor Loadings, and Communalities

Constructs/Items	1	2	3	4	5
1.					
I make friends easily.	.72 (.53)				
Most other kids like me.	.68 (.57)				
Other students here like me the way I am.	.63 (.62)				
Other kids want me to be their friend.	.60 (.58)				
I get along with other kids easily.	.59 (.50)				
I have more friends than most other kids.	.58 (.51)				
I am treated with as much respect as other students.	.54 (.53)				
I am popular with kids of my own age.	.53 (.45)				
Other students in this school take my opinions seriously.	.46 (.49)				
Most kids have more friends than I do.	.45 (.45)				
I am easy to like.	.44 (.52)				
People at this school are friendly to me.	.43 (.60)				
I am included in lots of activities at this school.	.39 (.46)				
People here notice when I am good at something.	.36 (.45)				
Work in all school subjects is easy for me.	.33 (.41)				
People here know I can do good work.	.33 (.62)				
I can really be myself at this school.	.33 (.51)				
How often do people say things that make you feel good, happy, or important?	.32 (.45)				
When you want to learn how to do something, how often does somebody teach it to you?	.30 (.39)				
Eigenvalue	10.2	% Variance	18.6%		
2.					
I am dumb in all school subjects.		.68 (.54)			
How often do you pay attention to what your teachers are saying?		.42 (.44)			
Sometimes I feel as if I don't belong here.		.40 (.44)			
Teachers here are not interested in people like me.		.40 (.41)			
I hate all school subjects.		-.30	.38 (.50)		
How often do you get your homework done?		.38 (.49)			
It is hard for people like me to be accepted here.		.37 (.40)			
Do you think your friends care about you?		.33	.36 (.47)		
Eigenvalue	8.6	% Variance	15.6%		
3.					
I feel proud of belonging to this school.					-.88 (.69)
I wish I were in a different school.			.31		-.56 (.65)
I feel like a real part of school.					-.44 (.59)

Table 3 (continued)

The teachers here respect me.				-42 (.54)
Most teachers at this school are interested in me.				-40 (.52)
<i>Eigenvalue</i>	3.2	% Variance	5.8%	
4.				
I like all school subjects.				-.87 (.73)
I enjoy doing work in all school subjects.				-.78 (.70)
I look forward to all school subjects.				-.77 (.70)
I am interested in all school subjects.				-.76 (.71)
I learn things quickly in all school subjects.				-.42 (.54)
I get good marks in all school subjects.				-.36 (.61)
How often are you bored with your schoolwork?				-.33 (.38)
<i>Eigenvalue</i>	2.5	% Variance	4.5%	
5.				
How important is it to you to finish high school?				.97 (.95)
How important is it to you to be successful in a job or career?				.96 (.93)
How important is it to you to go to college?				.95 (.93)
Do you think you will finish high school?				.94 (.92)
Do you think you will go to college?				.93 (.92)
How important is it to your mother that you go to college?				.92 (.91)
Do you think you will be successful in a job or career?				.92 (.91)
How often to your parents or guardians check on whether you did your homework?				.91 (.87)
How important is it to your father that you go to college?				.89 (.88)
How often do your parents or guardians make you do work or chores at home?				.61 (.52)
<i>Eigenvalue</i>	1.9	% Variance	3.5%	

Note. Only items with factor loadings >.3 are included; communalities are listed parenthetically to the factor loading

Factor Patterns

The factor analysis results also indicate that there are some distinct dimensions represented by the various items used to measure student engagement and bonding with school. Some interesting parallels can be drawn between the resulting dimensions from the present factor analysis and the extant literature on school bonding, engagement, and related terms. The first dimension that emerged (Factor 1) was found to consist of a pattern of items that address relationships that take place at school. These items assess student perceptions of peer acceptance, general degree of friendliness at school, degree of inclusion in activities and support as well as acknowledgment. That these items held a high level of cohesion in the resulting factor structure is not surprising, as the items appear to represent what is described by Hirchi (1969) and Hawkins (1987) as attachment to school. Recall that Hirchi (1969) included items measuring the degree to which students cared about what teachers thought of them. Not only did items that represent a perception of acceptance by friends and teachers result in this dimension, also included were items that tapped self-perception of “likeability” and ease with which the respondent makes friends. Collectively, these items yield a pattern of school relationship indicators, and appear to tap the students’ perceptions of the relational dimension of school.

Table 4
Cross-factor Correlations

	1	2	3	4	5
Factor 1	—	.26	-.26	-.31	.00
Factor 2		—	.25	-.22	.00
Factor 3			—	.34	.11
Factor 4				—	.00
Factor 5					—

Factor 2 is comprised of items that tap the degree to which students feel accepted and cared about at school, and how competent they feel in school subjects. Also included in this dimension are two items that relate to behavioral elements of school engagement (i.e., paying attention to what teachers say and completing homework). This result is somewhat unexpected considering that the remaining items display a pattern of alienation, or lack of belonging at school. Wentzel (1999) suggests that students' degree of connectedness and feelings of belonging in the school context will predict their level of adopting the values held by those in the school environment. When considering this perspective, the items that resulted in this dimension make some sense. Students who do not feel accepted in the school environment or competent at school may participate in school tasks to a lesser degree than those who do feel accepted and competent in school-related tasks. Conversely, if students don't do their homework, they may feel less competent. From these data, the directionality cannot be determined. Thus, the pattern of items in this factor appear to represent a sense of alienation, which in this sample is related to some behavioral aspects of school.

Items that clustered into Factor 3 appear to tap students' feelings of belonging to a particular school as well as their sense of acceptance by adults who represent the institution of school. The items that comprise this factor were from the Goodenow (1993) measure, and represented generally worded items that appear to tap a broad feeling of school belonging. As was seen in Table 1, items like those that clustered in Factor 3 have been termed school belonging, and school commitment. These items do not ask specifically about relationships at the school, or feelings about competence. Indeed, they tap into students' feelings about school in general. A possible interpretation of this result for this sample of students is that these students associate their feelings about school in general with the level of respect and interest in them as individuals that they perceive from their teachers.

Items included in Factor 4 represented a pattern of attitudes about academic tasks such as doing schoolwork and academic subjects in general. In this particular sample, it appears as though students who like and look forward to school subjects also perceive themselves as able to learn things quickly and feel as though they receive good grades in school. The items that are represented in this dimension originated from the Goodenow (1993) measure, and the Marsh (1987) measure representing a *General School* dimension of self-concept. This element of school engagement may represent a latent variable that can be accounted for as Hirschi and Hawkins' "attitude toward school" dimension of student bonds to school.

The items in Factor 5 tapped student expectations about future academic and vocational endeavors, perceptions of personal and parental importance of school, as well as level of supervision of school and work related tasks at home. This dimension is particularly interesting due to the fact that all of the parent-related items clustered together along with the items assumed to measure student feelings of

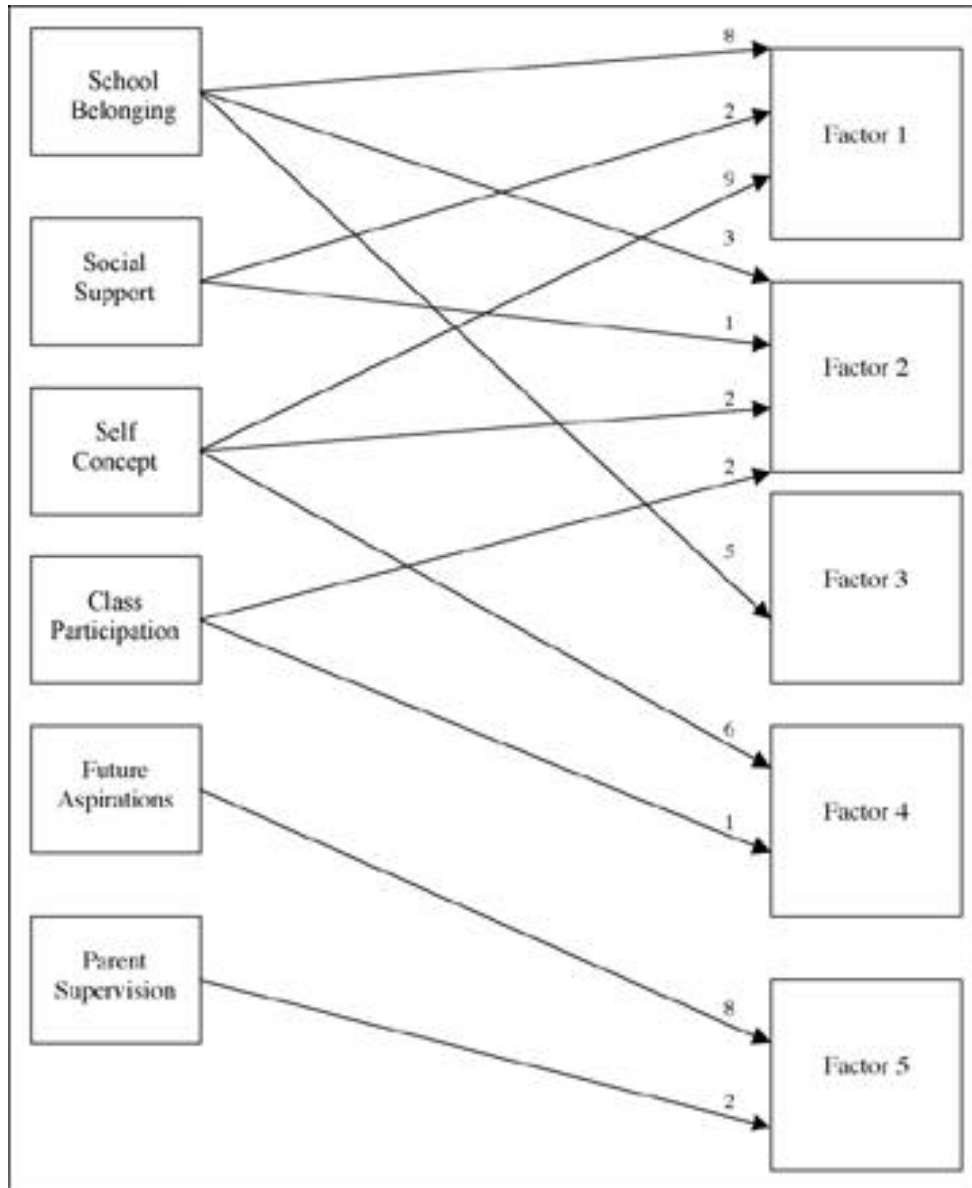


Figure 1. Original scale items and resulting factors. (The number indicated near each arrow represents the number of items that loaded on each factor from the original scales, as shown in the boxes on the left)

school importance. These results seem to support the findings of Dornbusch, Erickson, Laird, and Wong (2001), Kaminski, Stormshak, Good, and Goodman (2002), and Kumfer, Alvarado, Tait, and Turner (2002), which indicated that various parent indicators related with an increase in student bonding to school. It appears that in the current sample, this relationship may hold true as well. The degree to which students' value school as important to their future and have high educational expectations appear to be highly related to their parents' expectations for their educational future.

Within the current sample Factor 4 has a negative relationship with Factor 1. Recall that many of the items that loaded on Factor 1 tapped into perception of peer relationships. It appears as though the students in the current sample bond to school through peer relationships rather than through a positive orientation toward academics. This phenomenon might be explained developmentally, as it is relatively well established that as children grow into adolescence, there is a general trend toward relying more on peers than on adults (e.g., Lynch & Cicchetti, 1997). In addition, the students in the current sample attend schools that traditionally perform below the state average on mandated assessments of reading and mathematics, and may therefore tend to report lower levels of orientation toward academics. It is possible that these students, who may not perform well academically, have developed strong peer and social relationships that serve as an avenue through which they engage in school.

Similar explanations might also apply to the negative association between Factor 1 and Factor 3. Items included in Factor 1 tap student perceptions of peer acceptance and general perceptions of respect and acknowledgment of competence at school. It appears as though the students in the present sample who feel supported by peers and generally accepted at school (as measured by Factor 1) do not identify with the broad system of school (as measured by Factor 3). This seemingly contradictory finding can be explained by the fact that Factor 1 contains items that assess perceptions of peer relationships and general acceptance, whereas Factor 3 contains items that assess broad feelings of belonging at school and perceptions of teachers' feelings toward them (e.g., level of respect). This indicates that this sample of students may generalize their perception of acceptance by teachers to the system of school as a whole.

A positive relationship was found between Factors 4 and 3, as well as between Factors 2 and 1, and 2 and 3. Those students who feel good about their performance and competencies academically would likely identify with the general system of school and vice versa. Students who do not experience a sense of alienation from school feel positively about their school relationships and those who have positive school relationships also identify with the system of school. Keeping in mind that negatively worded items were reversed for analysis, a negative correlation was yielded between Factors 2 and 4, suggesting that the students who felt alienated from school tended to endorse items indicating higher levels of positive orientation toward academics.

Of great interest is the near zero relationship between Factor 5 and the remaining four dimensions. It appears that in this sample of students, the level of importance that they place on education is highly related to the level of importance that they perceive their parents place on education and is not related to the dimensions represented by the other four factors. Items that loaded onto Factor 5 included not only assessments of importance of school and educational expectations, but also student perception of their parents' educational expectations for them and their parents' involvement in homework supervision. These results seem to indicate that, for students who are of upper elementary age, the importance of school may not be a measure of school engagement at all, and may more accurately be described as a construct that relates more closely to parent expectations and level of involvement in education-related activities. Previous research in the area of perceived support from peers indicates that perception of such support during adolescence may be more strongly related to prosocial goals (e.g., academic endeavors in the school context), than is perceived support from parents or teachers. In considering Factor 5 in light of this information, one might expect the importance of school may shift toward a stronger relationship with peer factors and away from items tapping perception of parental expectations with an older sample. It appears that at this point, students do not necessarily relate their school experience as measured by Factors 1 through 4 with the items that are represented in Factor 5, tapping the student perception of future educational aspirations and importance of school.

Study Limitations

In this effort to “unpack” the literature with regard to the measurement of school engagement and related constructs, there are a number of limitations. First, it was not possible in the present study to include every possible item that has been used to measure school engagement and related constructs. As mentioned previously, these constructs have been measured through self-report as well as through parent and teacher report, attendance indicators, grades, and involvement in disciplinary actions. Recall that according to Finn (1989), school engagement is represented by two dimensions - identification and participation. In the school dropout literature, these dimensions have been represented by student reports (e.g., Rumberger & Larson, 1998), and teacher reports (e.g., Sinclair, Christenson, Evelo, & Hurley, 1998). The present study utilizes only student report, and does not include grades, attendance, extracurricular activities or disciplinary involvement, which have in the past been used to measure levels of student participation. Future studies should include a multiple informant design, not only to better replicate previous measures of school engagement, but also to eliminate the potential social desirability effect that sometimes occurs with self-report format.

In the present study, student participation was measured through items that assess student reported levels of class participation. Further, the class participation scale’s reliability level was less than ideal. It is recommended that future studies be conducted with this or other measures of participation in order to confirm the results of the present analysis.

The sample in this study was relatively small, given the number of items included in the analysis. While considered acceptable, the ratio is not ideal, and thus future studies should replicate this analysis with a larger sample size. A larger sample size would not only increase the power of the analysis, but would also improve the generalizability of the results.

Implications for Future Research and Practice

This study was conducted on a specific population of upper elementary-aged students, primarily Latino/a, from disadvantaged communities in the central California region. The current results indicate that school engagement consists of distinct dimensions and that students may have differing levels of engagement among five dimensions. These are important results and may clarify some of the conflicting trends seen in the extant research. Relationships between school bonding and various outcome measures may vary depending on how school engagement and related constructs (e.g., school bonding) are defined and measured. In future research, it will be important to specify which aspects of school engagement are being measured rather than using the umbrella terms, “school engagement” or “school bonding.”

Future studies must be done, replicating this exploration of the relationship among the many types of items that have been used in measuring school bonding and related constructs. Upon replication, it is recommended that a term be agreed upon to represent this broad construct as well as its dimensions. The resulting terms must be used consistently and accurately. In doing so, researchers will help delineate the distinct aspects of school engagement, the differential relationships between each dimension of school engagement and various student outcomes, as well as aid in creating interventions that can be used in facilitating school engagement.

Future studies should include larger samples of students from varying geographic, ethnic, and economic backgrounds. These studies should be geared toward understanding school engagement as it may differ between and within these populations and across the life span. In order to determine the best way to influence bonding to and engagement in school through programmatic interventions, the current model should be tested on samples of students varying by age and by gender. This type of

analysis will yield important developmental information and will aid in understanding whether patterns of school engagement change for boys and girls as they move through the elementary, middle, and high school levels. In particular, the items represented in Factor 5 of the current study should be examined developmentally. Thus contributing to the determination of whether this dimension is, in fact, related to student engagement or whether it is a distinct construct of its own.

Further, school bonding and related constructs are often included in research designs as predictor rather than dependent variables. Very little is known about the factors that lead to bonding with and engagement in school. Thus, in future research it will be important to investigate those factors that lead to and influence student engagement in school.

Conclusions

This work represents an important step in understanding the complexities of school bonding, in that it is an attempt to forge a consensus between the previously varied definitions of school bonding and its measurement. In light of the current research it appears as though school engagement in this sample of upper elementary-aged dominantly Latino/a students, consists of five dimensions. Where before, this construct was often measured globally, it appears as though these dimensions are distinct. Further, while students report high levels on a given dimension of school engagement, they may report low levels on another, indicating that school engagement is not an "all or nothing" construct.

These results suggest that school personnel may capitalize upon high levels of engagement on one dimension in order to facilitate growth where engagement may be lacking. As is suggested with these data, it appears that peer relationships provide a conduit for school bonding in the upper elementary years. Practical implications of this result point to the inclusion of interventions that are implemented in such a way as to foster relationships among students through activities that may generalize to school bonding in the remaining four dimensions. For example, in order to increase student bonding to school with regard to academic orientation, a possible intervention would be to begin student-led focus groups whose goal is to brainstorm avenues through which to increase student motivation and engagement in academic activities. This would serve to capitalize on existing bonds among students and apply those pre-existing relationships to new tasks focused on increasing levels of positive academic orientation.

To date, there has been no previous attempt to look collectively at the school bonding literature in order to identify common dimensions of student bonding to and engagement in school. These results indicate that there may be five distinct dimensions of school engagement, each presenting potential avenues through which school personnel can attempt to increase student engagement in school. The negative correlations and near-zero correlations among some of the factors in the present study may help explain the conflicting results yielded from the collective school bonding and school engagement literature. Specifically, given that the current sample of students responded differentially among the derived factors, it is possible that in previous research these differences went undetected due to the fact that school engagement and related constructs have often been measured as a single, one-dimensional construct.

In order to build upon these findings and better understand school engagement in the future, it is important that researchers are careful in using and defining the terms used throughout this article. As was delineated above, it appears as though school engagement consists of five factors. What has previously been described as school bonding appears to be dispersed among the elements of school engagement that assess students' perceptions of school relationships, alienation, and identification with school. Therefore, it seems appropriate that at the present time the term school engagement be used in order to describe this construct as a whole, and that the more specific dimensions be described as such, and as elements of school engagement, in order to create more cohesion and understanding among the

research community so that the important research efforts that have, and will take place can be understood, built upon, and translated into practice with greater ease.

REFERENCES

- Abbott, R. D., O'Donnell, J., Hawkins, J. D., Hill, K. G., Kosterman, R., & Catalano, R. F. (1998). Changing teaching practices to promote achievement and bonding to school. *American Journal of Orthopsychiatry*, *68*, 542-552.
- Anderman, L. H., & Anderman, E. M. (1999). Social predictors of changes in students' achievement goal orientations. *Contemporary Educational Psychology*, *25*, 21-37.
- Anderson, B., Holmes, M. D., & Ostresh, E. (1999). Male and female delinquents' attachments on severity of self-reported delinquency. *Criminal Justice and Behavior*, *26*, 435-452.
- Arbuckle, J. L. (1994-1999). *Amos 4*. Chicago: Smallwaters Corporation.
- Battistich, V., Solomon, D., Kim, D., Watson, M., & Schaps, E. (1995). Schools as communities, poverty levels of student populations, and students' attitudes, motives, and performance: A multilevel analysis. *American Educational Research Journal*, *32*, 627-658.
- Berndt, T. J., & Miller, K. E. (1990). Expectancies, values, and achievement in junior high school. *Journal of Educational Psychology*, *82*, 319-326.
- Brown, R.A., Leigh, G. K., & Barton, K. (2000). The school connection scale: A factor analysis. *Psychological Reports*, *87*, 851-858.
- Connell, J. P., Spencer, M. B., & Aber, J. L. (1994). Educational risk and resilience in African-American youth: Context, self, action, and outcomes in school. *Child Development*, *65*, 493-506.
- Dornbusch, S. M., Erickson, K. G., Laird, J., & Wong, C. A. (2001). The relation of family and school attachment to adolescent deviance in diverse groups and communities. *Journal of Adolescent Research*, *16*, 396-422.
- Dubow, E. F., & Ullman, D. G. (1989). Assessing social support in elementary school children: The survey of children's social support. *Journal of Clinical Child Psychology*, *18*, 52-64.
- East, P. L. (1996). The younger sisters of childbearing adolescents: Their attitudes, expectations, and behaviors. *Child Development*, *67*, 267-282.
- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, *53*, 109-132.
- Ellickson, P. L., & McGuigan, K. A. (2000). Early predictors of adolescent violence. *American Journal of Public Health*, *90*, 566-572.
- Ellickson, P. L., & Morton, S. C. (1999). Identifying adolescents at risk for hard drug use: Racial/ethnic variations. *Journal of Adolescent Health*, *25*, 382-395.
- Fabrigar, L. R., MacCallum, R. C., Wegener, D. T., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, *4*, 272-299.
- Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research*, *59*, 117-142.
- Finn, J. D., & Rock, D. A., (1997). Academic success among students at risk for school failure. *Journal of Applied Psychology*, *82*, 221-234.
- Finn, J. D., & Voelkl, K. E. (1993). School characteristics related to student engagement. *Journal of Negro Education*, *62*, 249-268.
- Finn, J. D., Pannazzo, G. M., & Voelkl, K. E. (1995). Disruptive and inattentive-withdrawn behavior and achievement among fourth graders. *The Elementary School Journal*, *95*, 421-434.
- Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools*, *30*, 79-90.
- Goodenow, C. (1993). Classroom belonging among early adolescent students: Relationships to motivation and achievement. *Journal of Early Adolescence*, *13*, 21-43.
- Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *Journal of Experimental Education*, *62*, 60-71.
- Gutman, L. M., & Midgley, C. (2000). The role of protective factors in supporting the academic achievement of poor African American students during the middle school transition. *Journal of Youth and Adolescence*, *29*, 223-248.
- Hawkins, D. J., Guo, J., Hill, K. G., Battin-Pearson, S., & Abbott, R. D. (2001). Long-term effects of the Seattle Social Development Intervention on school bonding trajectories. *Applied Developmental Science*, *5*, 225-236.
- Hawkins, D. J., & Lishner, D. (1987). Etiology and prevention of antisocial behavior in children and adolescents. In D. H. Crowell & I. M. Evans (Eds.), *Childhood aggression and violence: Sources of influence, prevention, and control* (pp. 263-282). New York: Plenum Press.
- Heaven, P. C. L., Mak, A., Barry, J., & Ciarrochi, J. (2002). Personality and family influences on adolescent attitudes to school and self-rated academic performance. *Personality and Individual Differences*, *32*, 453-462.

- Hirschi, T. (1969). *Causes of delinquency*. Berkeley, CA: University of California Press.
- Hoppe, M. J., Wells, E. A., Simpson, E. E., Gaaney, R. R., & Catalano, R. F. (1998). Bonding in a high-risk and a general sample of children: Comparison of measures of attachment and their relationship to smoking and drinking. *Journal of Youth and Adolescence*, 27, 59-81.
- Jessor, R., Turbin, M. S., & Costa, F. M. (1998). Risk and protection in successful outcomes among disadvantaged adolescents. *Applied Developmental Science*, 2, 194-208.
- Joseph, J. (2002). School factors and delinquency: A study of African American Youths. *Journal of Black Studies*, 26, 340-355.
- Kaminski, R. A., Stormshack, E. A., Good, R. H., & Goodman, M. R. (2002). Prevention of substance abuse with rural Head Start children and families: Results of Project STAR. *Psychology of Addictive Behaviors*, 16(4S), 11-26.
- Kumpfer, K. L., Alvarado, R., Tait, C., & Turner, C. (2002). Effectiveness of school-based family and children's skills training for substance abuse prevention among 6-8-year-old rural children. *Psychology of Addictive Behaviors*, 16(4S), S65-S71.
- Lynch, M., & Cicchetti, D. (1997). Children's relationships with adults and peers: An examination of elementary and junior high school students. *Journal of School Psychology*, 35, 81-99.
- Marsh, H. W., & Smith, I. D. (1987). Cross-national study of the structure and level of multidimensional self-concepts: An application of confirmatory factor analysis. *Australian Journal of Psychology*, 39, 67-77.
- Maslow, A. (1962). *Toward a Psychology of Being*. Princeton, NJ: Van Nostrand.
- McNamara, K. (2000). Outcomes associated with service involvement among disengaged youth. *Journal of Drug Education*, 30, 229-245.
- Morrison, G. M., Robertson, L., & Harding, M. (1998). Resilience factors that support the classroom functioning of acting out and aggressive students. *Psychology in the Schools*, 35, 217-227.
- Mouton, S. G., Hawkins, J., McPherson, R. H., & Copley, J. (1996). School attachment: Perspectives of low-attached high school students. *Educational Psychology*, 16, 297-304.
- Murdock, T. (1999). The social context of risk: Status and motivational predictors of alienation in middle school. *Journal of Educational Psychology*, 91, 62-75.
- Murray, C., & Greenberg, M. T. (2001). Relationships with teachers and bonds with school: Social emotional adjustment correlates for children with and without disabilities. *Psychology in the Schools*, 38, 25-41.
- Neumark-Sztainer, D., Story, M., French, S. A., & Resnick, M. D. (1997). *Health Education Research*, 12(1), 37-52.
- O'Donnell, J., Hawkins, D. J., & Abbott, R. D. (1995). Predicting serious delinquency and substance use among aggressive boys. *Journal of Consulting and Clinical Psychology*, 63(4), 529-537.
- O'Donnell, J., Hawkins, D. J., Catalano, R. F., Abbott, R. D. (1995). Preventing school failure, drug use, and delinquency among low-income children: Long-term intervention in elementary schools. *American Journal of Orthopsychiatry*, 65(1), 87-100.
- Pierson, L. H., & Connell, J. P. (1992). Effect of grade retention on self-system processes, school engagement, and academic performance. *Journal of Educational Psychology*, 84(3), 300-307.
- Robertson, L. M., Harding, M. S., & Morrison, G. M. (1998). A comparison of risk and resilience indicators among Latino/a students: Differences between students identified as at-risk, learning disabled, speech impaired, and not at-risk. *Education and Treatment of Children*, 21(3), 333-353.
- Roeser, R. W., Eccles, J. S., & Sameroff, A. J. (1998). Academic and emotional functioning in early adolescence: Longitudinal relations, patterns, and prediction by experience in middle school. *Development and Psychopathology*, 10, 321-352.
- Rumberger, R. W., & Larson, K. A., (1998). Student mobility and the increased risk of high school dropout. *American Journal of Education*, 107, 1-35.
- Simons-Morton, B. G., Crump, A. D., Haynie, D. L., & Saylor, K. E. (1999). Student-school bonding and adolescent problem behavior. *Health Education Research*, 14(1), 99-107.
- Sinclair, M. F., Christenson, S. L., Evelo, D. L., & Hurley, C. M. (1998). Dropout prevention for youth with disabilities: Efficacy of a sustained school engagement procedure. *Exceptional Children*, 65(1), 7-21.
- Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology*, 85(4), 571-581.

Student Alienation Syndrome: A Paradigm for Understanding the Relation Between School Trauma and School Violence

Irwin Hyman, Ian Cohen, and Matthew Mahon
Temple University

In the school setting, children too often are victimized by peers, educators, and other school staff. The frequent and often unrecognized abuse in the school may cause pervasive emotional, social, and academic problems in children. This paper posits a theoretical construct, Student Alienation Syndrome (SAS), which may result from Posttraumatic Stress Disorder (PTSD) symptoms experienced by some victimized students. This article describes the Student Alienation and Trauma Survey (SATS), an alternate version of the My Worst Experience Scale (MWES), as a psychometrically sound instrument constructed to assess symptoms of PTSD and SAS in children who have been victimized at school. This article also includes an overview of a comprehensive treatment model called TREAT for children with PTSD/SAS and a case study illustrating assessment and intervention using the paradigm.

Keywords: Student Alienation Syndrome, Bullying, Assessment, Treatment, Posttraumatic Stress Disorder

Victimization of students by educators, most often in the name of discipline, is widely practiced and little recognized as a serious problem that contributes to student disruption, alienation, and aggression. Peer victimization, usually called bullying, too frequently ignored, trivialized or covertly encouraged, is a source of trauma that students experience daily in schools (Batsche & Knoff, 1994; Hyman & Snook, 2000). Student victimization caused by both school personal and peers can result in symptoms of anger, depression and anxiety. These in turn can result in the development of posttraumatic stress disorder (PTSD), which can lead to violent, vengeful ideation and aggressive, sometimes homicidal behavior by the victim (United States Secret Service and United States Department of Education, 2002a; United States Secret Service and United States Department of Education, 2002b). For instance, research and clinical studies suggest that as many as two-thirds of school shooters felt bullied, threatened, or persecuted prior to carrying out violent acts at school (Vossekuil, Reddy, Fein, Borum & Modzeleski, 2000; Bai, 1999).

Student victimization consists of the use of punitive disciplinary techniques by school staff which include physical, psychological and constitutional assaults on students (Hyman & Snook, 1999; Hyman & Perone, 1998b, Bailey, 2001; Zelikoff, 1986). Bullying by peers includes physical attacks, verbal threats, rejection and sexual harassment (Olweus, 1993; O'Moore & Kirham, 2001). Analyses of victimization literature and the bullying profiles of students who are violent in schools (Vossekuil, Reddy, Fein, Borum & Modzeleski, 2000; Hyman & Snook, 2000) suggest a hypothetical construct called Student Alienation Syndrome (SAS). In addition to other factors that contribute to aggression, this construct is rooted partly in the observation that these victimized students often choose schools rather than other settings as the focus of their rage (Hyman & Snook, 1999; Hyman, Snook, Lurkis, Phan, & Britton, 2001). The purpose of this paper is to provide a brief overview of the construct of SAS and its relation to school violence.

This paper is divided into four sections. The first section discusses how school events might cause Posttraumatic Stress Disorder (PTSD) in children and operationally defines Student Alienation Syndrome. The second section introduces the Student Alienation and Trauma Scale (SATS), an alternate version of the My Worst Experience Scale (MWES), as an instrument developed to empirically validate and assess PTSD and SAS in children. The third section outlines TREAT, a multi-method approach for treating PTSD and SAS. Finally, the paper ends with a case study to demonstrate the application of the SATS and TREAT in a clinical setting.

CHILDREN, PTSD, AND SAS

Social science has long recognized that students generally respond most positively when they are recognized, valued and accepted members of a school community (Dewey, 1927; Osterman, 2001). Relational bonds at school enable students to explore mutual values and ideals in pursuit of meaningful common goals (Noddings, 1988). Supportive school climates encourage acceptance of a schools' educational values, enhance motivation, and augment commitment to peers and staff in a manner that contraindicates the development of alienation (Kagan, 1990). While school climate is only one factor that contributes to student alienation, it is nevertheless important and too often overlooked (Hyman & Perone, 1998a, 1998b). We do know that some alienated youth view school as a battleground where they must constantly defend themselves from attacks on their self-esteem and physical safety and that the result is that they may feel justified in their counter-aggression which includes bullying and hurting others (Reid, Patterson & Snyder, 2002). These alienated students are often both victims and victimizers (Metropolitan Life Survey of the American Teacher, 1999; Olafsen & Viemero, 2000; Smith & Brain, 2000).

We believe that school climate is a major contributor to student alienation, but also recognize that a variety of factors such as mental illness, parenting and learning problems may lead to SAS (Bai, 1999; Begley, 1999; Belluck & Wilgoren, 1999; Johnson, 1999). A comprehensive discussion of theoretical underpinnings and research findings is beyond the scope of this paper and may be found elsewhere (Hyman & Mellinger, 2000; Hyman & Snook, 2001). However, most practitioners and researchers would agree that the measurement of alienating climates and of individual student responses to those climates will go a long way in identifying both institutional and individual factors which contribute to school violence.

Children, similar to adults, are often profoundly affected by traumatic and stressful events and consequently may develop symptoms of Posttraumatic Stress Disorder (PTSD). Originally the description of PTSD focused more on adults, however, most psychologists now acknowledge that children can also develop PTSD. The newly revised edition of the Diagnostic and Statistical Manual for Mental Disorders, Fourth Edition, Text Revision (American Psychiatric Association, 2000) recognizes that Posttraumatic Stress Disorder can develop in childhood. The development of symptoms of PTSD in childhood can severely affect a child's daily functioning, including his or her performance in school.

The occurrence of childhood trauma and the resultant symptomatology of PTSD not only adversely affect the daily functioning of the children, but also influence the future social, psychological, and emotional status of the child. Research indicates that PTSD during childhood is associated with various disorders such as anxiety disorders (Chu & Dill, 1990), borderline personality disorder (Herman, Perry, & Van der Kolk, 1989), conduct disorder (Rogers, 1996), and even in some cases linked to multiple personality disorder (Kluft, 1985). In addition, PTSD has been shown to result in various aberrant behaviors that are "non-pathological" such as drug use and criminal behavior (Burgess, Hartman, & McCormack, 1987).

Historically, PTSD has been studied in children who have survived natural disasters, bereavement, chronic illnesses and child abuse and neglect in the home (Terr, 1991). However, few researchers or child advocates have recognized the prospect of PTSD developing from traumatic experiences in the school setting (Hyman & Snook, 2000). One reason for the lack of recognition is that many people have failed to admit that schools employ practices that could harm children socially and emotionally.

Hyman and Snook (1999) described in great detail how some schools have adhered to punitive disciplinary practices that may cause severe damage to the mental health of a child. These disciplinary procedures include time-out, preventing students from using the bathroom, sarcastic remarks, and paddling. In addition, Hyman and Snook outlined (1999) various school practices that are not only unproductive and psychologically harmful, but are also infringements of children's civil liberties. School policies such as strip searches, random urine testing, and censorship violate a child's civil rights protected under state and federal law (Bailey, 2001). All of these practices of maltreatment can be experienced as a traumatic event, alienate the student from the school community, and subsequently lead to aberrant and destructive behavior (Hyman, 1990; 1997; Hyman, Cavallo, Erbacher, Spangler, & Stafford, 1997; Hyman, et al., 1997).

The maltreatment of school children has proven to have deleterious effects on a student's academic performance and social involvement in school. It has been documented that at-risk students, before they dropout, feel that they have been alienated by their teachers, the school staff or other school staff members (Kagan, 1990). In fact, one of the most frequently reported reasons why students have dropped out of school is because they feel that their teachers are not concerned about them (Lehr, 2000). At-risk students, such as those who are frequently suspended, from lower socioeconomic backgrounds, and those diagnosed with psychiatric disorders, report that they feel the school staff does not care about their welfare. Furthermore, White students who dropped out indicated that they felt more isolated from school staff than did African-American and Hispanic students who dropped out (Jordan, Lara, & McPartland, 1996).

Student Alienation Syndrome is the result of the maltreatment of children by either educators or peers in a negative school environment. Student Alienation Syndrome consists of three factors: oppositionality, hypervigilance, and hopelessness as measured by the My Worst Experience Scale (MWES) and the Student Alienation and Trauma Survey (SATS) (Hyman & Snook, 2000; 2002). These scales are derived from a factor analysis of a large national sample of school children and are keyed to the DSM-IV-TR criteria for the measurement of PTSD (Hyman & Snook, 2002).

If the psychological alienation of children causes academic failure and poor social performance in school, then it is imperative to identify which school stressors cause the most psychological damage. In addition, the extent of the psychological stress must also be assessed. The SATS functions as an assessment tool that identifies which events cause trauma and measures the level of the resultant psychological stress, PTSD symptomology, and indicates the occurrence of Student Alienation of Syndrome.

ASSESSMENT OF PTSD AND SAS: THE STUDENT ALIENATION AND TRAUMA SURVEY (SATS)

History of the My Worst Experience Scale (MWES) and the SATS

In an attempt to raise awareness about negative and harmful school practices, Hyman (2000), in the early 1980s, began a series of clinical investigations of the effects of corporal punishment in schools. Clinical assessment of school paddling victims revealed a set of symptoms that were similar to PTSD.

However, because of the nature of the trauma and developmental aspects of the symptoms, contemporary nosology hindered the establishment of the concept of "Educator-Induced Posttraumatic Stress Disorder" (EIPSTD) (Hyman, 1990). This reality led to the development of theory and research, buttressed by psychometric efforts, to establish the fact that students could be severely traumatized as the result of generally accepted discipline procedures (Hyman, Zelikoff, & Clarke, 1988). It is beyond the scope of this paper to trace the history of this movement (Hyman & Snook, 1999). In brief, it was established that common and acceptable traumatic events, such as spanking, divorce, and verbal maltreatment by caregivers, could cause many children to develop stress symptoms and some children to develop PTSD.

The My Worst Experience Scale (MWES) was originally developed by the senior author in order to assess PTSD in children. The MWES has been published by Western Psychological Services (Hyman & Snook, 2002) and has been utilized to facilitate the assessment of PTSD for children and adolescents who have experienced a variety of stressors ranging from experiences at school to natural disasters and interpersonal assaults (i.e., sexual abuse, physical abuse) (Hyman & Snook, 2002). Over the course of the development of the MWES during the last two decades, the MWES has been gradually adapted into an alternate version that specifically assess PTSD resulting from stressors that occur in the school setting. The first adapted version of the MWES was the School Trauma Survey (Hyman, Zelikoff, & Clarke, 1988). The Student Trauma Survey was first converted into the My Worst School Experience Scale (MWSES) (Hyman, Berna, Kohr, & DuCette, 1998). Recently, the MWSES has been revised to include issues of peer victimization and has been renamed the Student Alienation and Trauma Survey (SATS) (Hyman & Snook, 2000). The MWES and the SATS are similar self-report surveys. The main difference between the My Worst Experience Scale and the Student Alienation and Trauma Survey is that the SATS specifically focuses on events that happen within the school setting, while the MWES assesses PTSD from any setting. Since the SATS is an adapted version of the MWES, the structure and psychometric properties of the MWES will first be discussed and a description of the modifications made for the construction of the SATS will follow.

Structure of the MWES

The MWES consists of two parts. Part I of the MWES lists 21 general traumatic events and asks the respondent to indicate which was his or her worst experience. The events range from natural disasters (e.g. earthquake) to physical abuse (e.g. kidnapping). During Part II, the respondent is asked to answer questions about how he or she felt after the worst experience identified during Part I. Part II of the MWES consists of 105 items that are utilized to assess the psychological symptoms of PTSD. The symptoms are self-rated by the child using a 5-point Likert scale.

The MWES is a strong assessment instrument because it matches the typology of the symptoms to the DSM-IV criteria and provides a T-score for PTSD symptoms. Therefore, the clinician can determine if the particular symptoms of the distress qualify the child for diagnosis of PTSD from the DSM-IV and if the distress of the child is statistically higher than other children. The four subscales of the SATS utilized for clinical evaluation according to the DSM-IV criteria are Impact of Event, Re-experiencing the Trauma, Avoidance and Numbing, and Increased Arousal. Impact of Event refers to the disorganized and agitated behavior experienced by children who suffer from PTSD (Item Example: I got very nervous about things). Unlike adults who are suffering from PTSD, children generally do not experience dramatic flashbacks of the traumatic events. However, children do re-experience the trauma in other ways. The Re-experiencing the Trauma subscale focuses on symptoms such as distressing dreams and difficulty concentrating in school-aged children (Pictures of what happened popped into

my mind). The items on the Avoidance and Numbing subscale were developed to assess avoiding thoughts about the trauma, avoiding the victimizer, and repressing certain aspects of the trauma (I tried to stay away from the person who hurt me). The last subscale, Increased Arousal, measures the level of sleep disturbance, hypervigilance, irritability and anger (I couldn't think clearly).

The SATS provides a total global T-score for the symptoms of PTSD. The scale also produces a T-score for seven subscales of PTSD symptoms. These subscales are Depression (Item Example: I thought my life would not get better), Hopelessness (I didn't care about the future), Somatic Symptoms (I got stomach aches), Oppositional Conduct (I mouthed off to adults), Hypervigilance (I felt like I had to watch everybody), Dissociation and Dreams (I had nightmares), and General Maladjustment (I began to bite my nails).

Psychometric properties of the MWES

The MWES was standardized on a large national sample. Initial research has demonstrated high levels of internal and test-retest reliability (Berna, 1993). The alpha coefficient estimate for the total symptom score is .97 and coefficient estimates for the symptom subscales range from .68 to .97. Test-retest reliability has also shown to be high; a coefficient of .95 was found over a six-week period. Several studies have provided evidence for both construct (Berna, 1993) and discriminative validity (Berna, 1993; Goldwater, 1993; Curcio-Chilton, 1994; Zahn, 1995; Kohr, 1996). Scores from the MWES highly correlate with scores from the Piers-Harris Children's Self-Concept Scale, Attitudes toward Guns and Violence Questionnaire, Aggression Questionnaire, and the Children's Inventory of Anger (Hyman & Snook, 2002). Detailed information on the psychometric properties of the scale are available in the new My Worst Experience Manual (Hyman & Snook, 2002).

The Student Alienation and Trauma Scale: An Alternate Version of the MWES

The Student Alienation and Trauma Survey (SATS) is an alternate version of the MWES designed to assess the psychological stress from trauma in the school setting. The only structural difference between the MWES and the SATS is found in Part I. The MWES lists traumatic events that have been traditionally linked with PTSD, while the SATS only is concerned with psychological stress resulting from traumatic events in the school setting. Part I of the SATS consists of 54 items, which is a list of stressors ranging from harsh school punishments to verbal, physical and sexual assault. Examples of Part I items are "I was teased," "Someone threatened to do something bad to me or to hit someone I care about," "I was beaten up", and "I was forced to have sex." This is a controversial element of the scale because it is not explicitly clear in the wording of criterion A2 of the DSM-IV-TR PTSD diagnostic criteria that a negative school event can meet the traumatic threshold for PTSD. Part II of the scale can be utilized to demonstrate that school events may cause the same level of psychological stress as more "traditional" traumatic events such as hurricanes, fires, and automobile accidents.

Part II is identical in both the MWES and the SATS. Since the MWES was the original scale, the psychometric information on Part II of the scale described above is the same for the SATS. Part II is utilized to determine if the symptoms from school trauma meet the diagnostic criteria for PTSD and if the level of symptomatology is clinically significant compared to the normal population. The SATS also provides a Student Alienation Index (SAI). The SAI assesses three factors of Student Alienation Syndrome: oppositionality, hypervigilance, and hopelessness. The SAI is derived from three of the seven symptom subscale scores. High scores on the Oppositional Conduct, Hopelessness, and Hypervigilance symptom subscales indicate that the child is experiencing the Student Alienation Syndrome. Items that assess oppositionality include: "I picked on other kids" and "I stopped doing home-

work.” Items that assess hypervigilance include: “I stayed away from the place where it happened” and “I didn’t trust people as much as before.” Examples of items that assess the third factor, hopelessness, are “I felt like a failure” and “I felt like I would die.” More information on the SATS can be found in the My Worst Experience Scale manual (Hyman & Snook, 2002).

Multiple Functions of the SATS: Mental Health Audits and Risk Assessment to Identify SAS

The Student Alienation and Trauma Survey can function as a tool for primary, secondary, and tertiary prevention. In terms of primary prevention, the SATS can be used to conduct mental health audits of schools in order to determine the number and proportion of students who have been traumatized by educators or peers. For purposes of determining the level of SAS as a function of traumatization fostered by school climate, anonymity will probably result in a larger percentage of accurate responses. However, while this technique will provide levels of traumatization, it will not allow for identification for those individuals who might require ecological intervention or individual treatment. The scales may be easily administered to large groups of students and scoring is readily accomplished by use of scanning techniques.

The concept of mental health audits using the SATS was developed following a national spate of school shootings. Because of the extreme low incidence of school shootings and other methodological issues, to date we do not have any data using the SATS to predict school homicides. However, it may be reasonable to assume that schools with high rates of traumatized students are more likely to harbor the possibility for student aggression, including murder (Monnelley, Ciraulo, Knapp, & Keane, 2003; Rogers, 1996; Hyman & Snook, 1999). Whether or not this scale will predict school homicides, normative data will certainly provide useful information about school climates, student victimization and the levels of traumatic symptomatology.

Secondary prevention, using large-scale screening, requires that students record their names on the scoring sheet. This provides a format for screening individual students for potential and significant traumatic symptomatology related to maltreatment by peers and educators. Items that tap aggressive and vengeful ideation can be identified through the three separate subscales that comprise a Student Alienation Index, which includes both internalized and externalized symptoms. Therefore, while the original intent of the SATS and MWES was to identify PTSD, the SATS can be used to ascertain the group of victims of PTSD who are more likely to act out aggressively.

The SATS can be used for tertiary prevention to check symptomatology of students at least one month following traumatic school or community events that impact large numbers of students. Events may include acts of interpersonal violence and terrorism, such as shootings, school kidnappings or rapes. Also, events such as hurricanes, tornadoes and other natural disasters can impact an entire school population. The results can be used to compare symptomatology of all students in the school and can be referenced against national norms of student populations that have experienced group traumatization. This type of tertiary prevention focuses on students with identifiable, clinical symptomatology of PTSD and requires follow-up, which may be considered prohibitively expensive for many school districts.

THE TREAT MODEL FOR TREATMENT OF PTSD/SAS

Parallel to the development of the SATS, Hyman and Snook (2000) developed a comprehensive and efficacious treatment approach for children with PTSD/SAS. This therapeutic approach is based on the clinical research and numerous experiences treating children with PTSD/SAS. TREAT is the acronym for a multi-method treatment strategy for children who have been diagnosed with PTSD/

SAS. The TREAT model consists of five components or phases: (1) Treat symptoms that respond to behavioral techniques, (2) Reframe dysfunctional cognitions and behaviors, (3) Explore need for medication, (4) Address existential/spiritual issues and (5) Tackle ecological issues related to school/family and peers.

The TREAT model is not a rigid treatment plan that must be followed stringently for each case. The clinician must be flexible and creative in dealing with children who are exhibiting symptoms of PTSD/ SAS. This paper offers general clinical procedures and guidelines that are useful for addressing the symptoms of PTSD/ SAS; however, the nature and intensity of interventions can vary greatly from case to case. Also, techniques from various theoretical orientations may overlap within the phases of this treatment paradigm. For instance, in dealing with existential issues, the therapist may use a combination of Rogerian, psychodynamic, and cognitive-behavioral techniques in a group setting.

Treat Symptoms That Respond to Behavioral Techniques

Many of the symptoms of PTSD are anxiety based and can be treated with traditional behavioral techniques. These strategies range from the use of relatively simple relaxation procedures to the use of biofeedback. Relaxation procedures are extremely effective because anxiety symptoms are strongly related to muscle tension. In this method, learning how to control the muscle tension in one's body teaches a person to control anxiety symptoms. Reactivity to seeing, remembering or thinking about the bad experiences triggers the anxiety reaction. Short circuiting the connection between the thought and the physiological response is one step on the road to mastering the trauma (Kubany & Watson, 2002; Boudewyns & Hyer, 1990).

Most children and adolescents can learn some type of relaxation procedure. A particular type of self-hypnosis training, described by Soskis, Orne, and Orne (1986) has been found to be quite useful since the trance induction incorporates a number of techniques, which can be used independently if the hypnotic procedure itself is unsuccessful. Such techniques include deep breathing, deep muscle relaxation and imagery. In addition to individual relaxation strategies, self-hypnosis can also be used as part of group therapy with a variety of patients, even if only one may have PTSD, since relaxation can be a helpful practice for a wide range of problems. Once relaxation procedures are mastered, classical procedures of desensitization should be utilized for the traumatic memory and, in some cases, the place or person involved in the event.

Reframe Dysfunctional Cognitions and Behaviors

Cognitive-behavioral strategies can be useful in helping victims gain insight into the nature of their stress responses (Kubany & Watson, 2002; Soskis, Orne, & Orne, 1986; Harvey, Bryant, & Tarrrier, 2003). These techniques may also be helpful in helping them to understand what drives the behavior of the victimizer. With many of the cases of SAS, victims tend to generalize about the victimizer(s) and the institution in general. They may utilize self-destructive responses, fueled by anger, depression and feelings of hopelessness that must be therapeutically challenged. For instance, once a student becomes a victim of bullying, responses such as crying, unrealistically physically attacking in response to verbal taunts or hysterical outbursts only reinforce the bully's behavior. The victim must learn how the bully is reinforced and why ignoring can help extinguish the bullying.

In many cases, victims of bullying are subject to a whole set of incorrect, peer-reinforced assumptions concerning the helplessness of authorities to stop the bullying and the potential retaliation by bullies and their friends for reporting the bully. None of these fears need to be true if the psycholo-

gists, parents and authorities (sometimes including police) take appropriate action. Victims need to reframe their thinking, try different strategies and role-play new behaviors before actually trying them in vivo. Role-playing, with the therapist first modeling proper skills, can sometimes enhance the process.

One of the most frequent, irrational responses to teacher maltreatment is to “get revenge” by not doing well in school. Thoughts such as, “I hate the teacher so I will never turn in homework and I will fool around in class to fix her/him,” are quite common. Victims need to learn how irrational their responses are and how to not hurt themselves to get back at the teacher.

Explore The Need for Medication

Psychotherapeutic and ecological interventions are generally sufficient to relieve symptoms, begin the healing process and move towards normalization. However, in some cases, especially with comorbidity due to previous psychopathology related to anxiety disorders, depression, obsessive-compulsive disorders, and/or if there is a family history of these issues, medication may be required. Medications, which can offer short-term relief of anxiety, are helpful when available as a backup if behavioral strategies are not working in reducing the symptoms. Xanax and BuSpar have been found to be helpful in older adolescents and adults, however, therapeutic effects are usually limited to short-term relief (Gaffney, 2003; Silver, Sandberg, & Hales, 1990).

Zoloft and Paxil are generally used with PTSD in adults (Brady, et al, 2000), however, these medications have not been approved for children. With Zoloft, adult symptoms of avoidance/numbing and arousal are reduced. The problem with medication is that it often takes more than several weeks to reach therapeutic levels and there are usually side effects. The benefits of pharmacological therapy in treating PTSD have been shown to be moderate and less effective than cognitive and or behavioral therapy (Solomon, Gerrity & Muff, 1992). However, when children/adolescents have a history of untreated trauma, and problems of comorbidity (i.e. suicidal and homicidal ideation), they should be referred to a physician to explore the possibility of a medical treatment, and in severe cases potentially recommended for institutional placement (Donnelly, 2003; Green, 2001; McIvor & Turner, 1995).

Address Existential/Spiritual Issues

Traumatic events can become the benchmark in children’s lives. Their very sense of being, their sense of the predictability of events, their faith in the future and their trust in the tenants of their religion may be shaken. Victims of physical assault may ask, “How could God let this happen to me?” A student who was assaulted by his coach asks, “How can I ever trust any teacher or even any authority?” Students who are continually bullied, even after reporting the events to teachers, may come to believe that there is no hope for their ever being safety in any institutional setting, or in the streets. Such an experience can lead to decreases in self-esteem and self worth.

It is important for the therapist and other adults to assure the victims that they are there to support them, and that they will protect them and do whatever they can to assure a feeling of safety. This does not mean giving false assurances of security, but rather discussing probabilities of an event occurring, which may help victims understand the likelihood of their safety.

Tackle Ecological Issues Related to School/Family and Peers

Most therapists are trained to not become involved directly in the lives of patients. However, psychologists, especially school psychologists, must often directly intervene in the schools to help ameliorate the situation that caused the trauma. We have worked in the roles of both school psycholo-

gist and outside therapist in dealing with SAS. As part of the ecological solution, family and group therapy within the school are important options to consider. Needless to say, the parents must take an active role in encouraging or forcing school authorities to take action. Sometimes, it is important for the therapist to attend all meetings with school staff to assure that the school is aware that an expert is watching what they are doing. The school may need to be reminded that the parents will use experts, take political action or begin litigation if school officials do not act promptly (Hyman, Dahbany, Weiler, Shanock, & Britton, 1996). In the following case, school officials acted promptly and wisely in dealing with the suggestions of the therapist and parents.

A CASE STUDY OF SAS

For several months, fourteen-year-old John (not his real name) was the victim of bullying by peers. He sought help, to no avail, from the teacher in whose class much of the bullying occurred. He then went to the school counselor, and finally to the school nurse to whom he revealed that he had mutilated himself. She immediately contacted the principal and the school psychologist was consulted. The school authorities were particularly alarmed when they discovered the nature of the self-mutilation. John, in what was later understood as a desperate bid for attention and to be taken seriously, had carved an "A," (about 2 inches high) on his left thigh.

Initial investigation revealed that for several months John was the victim of bullying by a small group of peers. When discussing the reasons for the mutilation, he expressed his greatest anger at the perpetrators. He was also angry with students who witnessed and went along with the bullying. He resented the ineptitude of school staff who did not appear able to stop the bullying, and the rest of the student body whom he felt contributed to the acceptance of bullying as part of the peer culture. Consultation by the principal with his teachers revealed several assignments that indicated angry ideation. In a health class, when asked to describe himself, John wrote, "I am a competitive SOF (survival of the fittest). I am stressed because of all the ignorant, selfish, racist, quick-to-judge-by-the-cover kids. I am not shy, but I want no good to occur in this school." In a "Stress Level Test" given by his health teacher, John wrote, "I don't like my present and [have] lost my past. I'm going to make my mark all in time." It was further discovered that John had threatened his tormentors with retaliation by John's "gang" from his former school. It was also alleged that John had threatened the life of one of the bullies but it turned out that the bully had said, "What are you going to do John, shoot me?" John had agreed that the idea had merit.

Clearly, John was an angry, depressed, and alienated student. The school administration, with consultation from the school psychologist, met with his parents and referred him for an outside evaluation and treatment. Interviews with John and his parents revealed that they had moved from a working class city neighborhood to the upper-middle class school district at the beginning of the school year. John's parents had been in America for approximately 10 years and both had heavy accents. Parental report and past school records indicated no particular problems in his previous school that served his ethnic neighborhood. Soon after entering the new school district, John was targeted by a group of four boys who rode on the same school bus with him. They called him names such as "fag," "faggot" and "queer" both on the bus and in school, made fun of his ethnic heritage, and tried to recruit others to join in the bullying.

After the initial family interview and contact with school personnel, a comprehensive evaluation was conducted, which included family, social, educational and developmental history; interviews with school staff; and cognitive, academic, social and emotional assessment. The latter included the MMPI-A, the Symptom Checklist-90-R, a sentence completion test, projective drawings and the SATS. On

the SATS he was diagnosable for PTSD using the DSM-IV criteria. However based on normative data, his total T-score for symptoms was only 49.15. This puzzling finding is explained by two factors. The normative data sets a higher threshold for PTSD symptomology than the DSM-IV criteria since it is based on the assumption that clinically significant scores must be at least one standard deviation above the mean. Also, John admitted that he was afraid that his intrusive mother might become aware of certain symptoms if he indicated them on the scale. This is a problem addressed elsewhere (Hyman & Snook, 2002). Only on Somatic Symptoms subscale did he earn a clinically significant *t*-score (64.43). He also had high scores that approached the clinically significant range on items from the Oppositional Conduct subscale. Examples of items from this subscale are: "I got angry for no reason," and "I got angry very fast." The diagnosis was PTSD associated with his school experiences. Anxiety, depression, and obsessive thoughts were also evident. Despite the fact that he was clearly suffering, the data did not suggest that he posed an immediate danger to the school.

John was seen initially in a combination of family and individual therapy session two to three times a week for five weeks until the stress symptoms were under control and his parents and school officials understood the problem and began to intervene. The following is a brief overview of the treatment strategy using the TREAT model as a guideline. As mentioned, this was not done necessarily in any order, since many of the interventions were parallel.

Treat Symptoms that Respond to Behavioral Techniques

In addition to extremely high levels of anxiety and depression, John was having frequent, obsessive thoughts of revenge. These would sometimes slip out in the form of unrealistic threats, such as getting his "gang" from his former neighborhood to seriously hurt the bullies. John was taught self-hypnosis with the emphasis on using imagery to get away from his thoughts of revenge. Relaxation techniques were used to help him sleep and to begin homework sessions. His parents were included in the first self-hypnosis training and given a copy of the trance inducement procedures.

Reframe Dysfunctional Cognitions and Behaviors

Following remission of the major symptoms, John began group therapy with an ongoing group of adolescents with anxiety disorders. All members had irrational, dysfunctional beliefs about their abilities, personalities and or appearances. They all had some level of social alienation and low self-esteem. The group therapy goals were to help members reframe their thinking about themselves, to stop catastrophizing, to learn more appropriate social skills and to interpret others' reactions to them in a more realistic manner. A major goal for John was to understand the cause and effect of his intermittent bizarre behavior of which the self-mutilation was only one example. Using the group format, cognitive/behavioral techniques were interjected in order to help John understand that many of his reactions to the bullying were counterproductive and self-destructive. The group helped to reinforce the need for him to change his thinking.

Explore Need for Medication

When first seen, John's obsessive thinking, anxiety and his depression were in the pathological range. However, the boy had no history of psychological problems. He was not suicidal and there were no guns or other lethal weapons (other than kitchen knives) in the home. Efforts were moving quickly to stop the bullying and John was given hope that things would change. Possible psychiatric consultation was discussed if symptoms did not diminish within three to four weeks of intensive therapy and school interventions. His parents and school authorities were alerted to carefully monitor John's be-

havior and thinking for possible signs of acting out against himself or others. Since he responded to treatment, medication was never used.

Address Existential/Spiritual Issues

John was an adolescent whose sense of self and the world changed for the worse when he moved to the new school. The world began to feel like an unsafe place in which he was a major victim. His parents were viewed as inept protectors. School officials and teachers were sought for help, but only seemed to trivialize the bullying, blame him or have little power to make the bullying stop. John needed to be convinced that his parents and the therapist would intervene with the school to assure that the bullying would not be tolerated.

John's parents were encouraged to acknowledge the severity of the bullying and the effect it had on his self-concept, behavior and ability to concentrate on schoolwork. As a result of the bullying, John's grades had dropped rapidly and his parents' initial response was punitive. All punishments needed to be terminated for a short period so that the treatment team could focus on making John a survivor rather than a victim. His parents' change in perception of the problem allowed for family therapy in which John felt he could be honest about his feelings. He admitted to his parents that he had been perseverating about seeking revenge against his tormentors. He revealed how his whole world had changed and that he felt they did not understand. In a few sessions John began to see the world return to "normal" for him and his family.

Tackle Ecological Issues Related to School, Family and Peers

Most of the teasing occurred in one particular class that John shared with the bullies. John repeatedly complained to his teacher to no avail, consequently he went to the school counselor for support. She met with the bullies who desisted for several weeks but then resumed their taunts. When the self-mutilation was discovered, the school authorities were finally quite alarmed. John had gotten the attention he wanted but much more than he had anticipated. While the school authorities and the school psychologist validated John's reports of bullying, they minimized its etiological importance as a precipitator of the self-mutilation.

The psychologist diagnosed John as a depressed, stressed youth with low self-esteem who was getting worse because of plummeting grades and parental pressure to achieve high grades. He recognized that the bullying contributed to the problems, but felt that John's pushy parents were most to blame for his bizarre response to teasing, name calling and taunting which is not unusual in large groups of early adolescents. The school did not condone the bullying and promised that it would be stopped, especially after the therapist/psychologist strongly reminded them that they were, in part, "blaming the victim," or in this case, the victim's family. The school authorities did understand that John's self-mutilation was a call for help and did not want to feel responsible if he did worse to himself because of their inaction. This is to their credit, especially when compared to the reactions of too many other schools in similar situations.

Fortunately, the school officials were dedicated to a mental health rather than a zero tolerance perspective, mandated in state law. The school took steps to accommodate treatment, including the offer to allow John to switch to a class that would remove him from the bullies and the "rookie" teacher. He ultimately decided to stick it out. Also, one of the guidance counselors and the principal agreed to be immediately accessible (within reason) when John was feeling stressed or in need of intervention. The principal met individually with the leaders of the bullying and warned them of the types of school and police punishments possible in documented cases of either verbal or physical harassment. He also

informed the students' parents of their behavior. In addition, when John was able to concentrate and his anxiety level was reduced, the school provided tutoring so that John could make appropriate academic progress.

SUMMARY AND FUTURE DIRECTIONS

The authors of this paper argue that highly negative events occurring in the school setting can cause symptoms of Posttraumatic Stress Disorder. The authors also maintain that traumatic events cannot only cause exclusive symptoms of posttraumatic stress disorder, but also can result in a cluster of symptoms that have been operationalized as the Student Alienation Syndrome. The Student Alienation Syndrome is defined by symptoms of hopelessness, oppositionality, and hypervigilance. This article provides a brief overview of the development and application of an instrument designed to measure the effects of student victimization by teachers and peers. The Student Alienation and Trauma Survey diagnoses PTSD resulting from victimization in schools and can be used for screening to identify individual and school climate factors. Finally, the authors describe the TREAT model, a multi-method treatment strategy for children experiencing PTSD.

The symptoms resulting from either educators or peer victimization is a relatively untouched area in the psychological and educational literature (Hyman & Perone (1998a, 1998b; Hyman & Snook, 1999). Therefore, the development of the SATS provides an opportunity to link specific school stressors to certain identifiable psychological symptoms that affect academic and social performance in school. The authors and their colleagues hope to eventually conduct a wide scale study to investigate the links between school performance and PTSD and to test the effectiveness of the SATS to predict and prevent school alienation. The authors also plan other studies in order to examine the connection between SAS and school violence. Research addressing screening students has been slow to develop. Most school authorities have not been willing to participate in research that would document the nature and extent of student maltreatment by educators and peers.

The SATS offers more opportunity for the expansion of the role of the school psychologist beyond traditional assessment. Victimization in the schools can cause both academic failure and poor mental health. School psychologists can utilize the SATS in order to determine the effects of traumatic events such as bullying.

REFERENCES

- American Psychological Association. (2000). *Diagnostic and statistical manual of mental disorders, Fourth Edition, Text Revision*. Washington, DC: American Psychiatric Association.
- Bai, M. (May 3, 1999). Anatomy of a massacre. *Newsweek*, 24-31.
- Bailey, K. A. (2001). Legal implications of profiling students for violence. *Psychology in the Schools*, 38, 141-155.
- Batsche, G. M., & Knoff, H. M. (1994). Bullies and their victims: Understanding a pervasive problem in school. *School Psychology Review*, 23 (2), 166-174.
- Begley, S. (May 3, 1999). The roots of violence. *Newsweek*, pp. 32-35.
- Belluck, P., & Wilgoren, J. (June 29, 1999). Caring parents, no answers in Columbine killers' past. *New York Times*, 1, 14.
- Berna, J. (1993). *The worst experiences of adolescents from divorced and separated parents and the stress responses to those experiences*. Unpublished doctoral dissertation, Temple University, Philadelphia, PA.
- Brady, K., Pearlstein, T., Asnis, G., Baker, D., Rothbaum, B., Sykes, C., & Farfel, G. (2000). Efficacy and safety of sertraline treatment of posttraumatic stress disorder: A randomized control trial. *Journal of the American Medical Association*, 283, 1837-1844.
- Boudewyns, P. A., & Hyer, L. (1990). Physiological response to combat memories and preliminary treatment outcome in Vietnam veteran PTSD patients treated with direct therapeutic exposure. *Behavior Therapy*, 21, 63-87.

- Burgess, A. W., Hartman, C.R., & McCormack, A. (1987). Abused to abuser: Antecedents of socially deviant behaviors. *American Journal of Psychiatry*, *141*, 1431-1436.
- Chu, J. A., & Dill, D. L. (1990). Dissociative symptoms in relation to childhood physical and sexual abuse. *American Journal of Psychiatry*, *147*(7), 887-892.
- Curcio-Chilton, K. (1995). Stress symptoms of adolescents diagnosed with conduct disorder. *Dissertation Abstracts International, Section B: The Physical Science and Engineering*, *55*(12-B), 5552.
- Dewey, J. (1927). *The public and its problems*. New York: Henry Holt & Co.
- Donnelly, C. L. (2003). Pharmacologic treatment approaches for children and adolescents with posttraumatic stress disorder. *Child and Adolescent Clinical Psychiatry of North America*, *12*(2), 251-269.
- Gaffney, M. (2003). Factor analysis of treatment response in posttraumatic stress disorder. *Journal of Traumatic Stress*, *16*, 77-80.
- Goldwater, A. (1993). *Attributional styles and stress symptoms in children exposed to Hurricane Andrew*. Unpublished doctoral dissertation, Temple University, Philadelphia.
- Green, W. (2001). *Child and adolescent clinical psychopharmacology*. Philadelphia: Lippincott, Williams & Wilkins.
- Harvey, A. G., Bryant, R. A., & Tarrier, N. (2003). Cognitive behaviour therapy for posttraumatic stress disorder. *Clinical Psychology Review*, *23*(3), 501-522.
- Herman, J. L., Perry, J. C., & Van der Kolk, B. A. (1989). Childhood trauma in borderline personality disorder. *American Journal of Psychiatry*, *146*(4), 490-495.
- Hyman, I. (1997). *The case against spanking: How to discipline your child without hitting*. San Francisco: Jossey-Bass.
- Hyman, I. (1990). *Reading, writing, and the hickory stick: The appalling story of physical and psychological abuse in American schools*. Lexington: Lexington Books.
- Hyman, I., Berna, J., Kohr, M., & DuCette, J. (1998). *My worst school experience scale (research form)*. Los Angeles: Western Psychological Services.
- Hyman, I., Cavallo, F., Erbacher, T., Spangler, J., & Stafford, J. (1997). Corporal punishment in American: Cultural wars in politics, religion and science. *Children's Legal Rights Journal*, *17*(4), 36-46.
- Hyman, I., Dahbany, A., Weiler, E., Shanock, A., & Britton, G. (1996). Policy and practice in school discipline: Past, present and future. In R. Talley & G. Walz (Eds.) *Safe schools, safe students*, (pp.77-84). Washington, DC: National Education Goals Panel, National Alliance of Pupil Services Organizations and ERIC Counseling and Student Services Clearinghouse (University of North Carolina at Greensboro).
- Hyman, I., Dahbany, A., Blum, M., Brooks-Klein, V., Weiler, E., & Pokalo, M. (1997). *School discipline and school violence: The teacher variance approach*. Needham Heights, MA: Allyn & Bacon.
- Hyman, I., & Mellinger, S. (2000). Student alienation (pp. 41-45). In L. Balter (Ed.). *Parenthood in America*. Santa Barbara, CA: ABC/CLIO Publishers.
- Hyman, I., & Perone, D. (1998a). The ecology of school violence: Introduction to the special theme section on school violence. *Journal of School Psychology*, *36*, 3-6.
- Hyman, I., & Perone, D. (1998b). The other side of school violence: Educator policies and practices, which may contribute to student misbehavior. *Journal of School Psychology*, *16*, 7-28.
- Hyman, I., & Snook, P. (1999). *Dangerous schools: What we can do about the physical and emotional abuse of our children*. San Francisco: Jossey-Bass.
- Hyman, I., & Snook, P. (2000, August). *Student alienation syndrome: Theory, assessment and application*. Paper presented at the 108th National Convention of the American Psychological Association, Washington, DC.
- Hyman, I., & Snook, P. (2002). *Manual for the My Worst Experience Scale (MWES)*. Los Angeles: Western Psychological Services.
- Hyman, I., Snook, P., Lurkis, L., Phan, C., & Britton, G. (2001, August). *Student alienation and trauma scale: Assessment, research, and practice*. Paper presented at the 109th Annual Convention of the American Psychological Association, San Francisco.
- Hyman, I., Zelikoff, W., & Clarke, J. (1988). Psychological and physical abuse in the schools: A paradigm for understanding posttraumatic stress disorder in children and youth. *Journal of Traumatic Stress*, *1*, 243-267.
- Jordan, W. J., Lara, J., & McPartland, J. M. (1996). Exploring the causes of early dropout among race-ethnic and gender groups. *Youth and Society*, *28*, 62-94.
- Kagan, D. M. (1990). How schools alienate students at risk: A model for examining proximal classroom variables. *Educational Psychologist*, *25*, 105-125.
- Kluft, R. P. (1985). *Childhood antecedents of multiple personality*. Washington D. C: American Psychiatric Press.
- Kohr, M. A. (1996). *Validation of the My Worst Experience Survey*. Unpublished doctoral dissertation. Temple University, Philadelphia.
- Kubany, S., & Watson, S. B. (2002). Cognitive trauma therapy for formerly battered women with PTSD: Conceptual bases and treatment outlines. *Cognitive and Behavioral Practice*, *9*(2), 111-127.

- Lambert, C. (1990). *Factorial structure and reliability of a scale measuring stress responses as a result of maltreatment in the schools*. Unpublished doctoral dissertation, Temple University, Philadelphia, PA.
- Lehr, C. A. (2000). At-risk students attending high schools: Factors that differentiate between persisters and dropouts. (school climate, special education students). *Dissertation Abstracts International Section A: Humanities & Social Sciences*, 60(7-A), 2370.
- Metropolitan Life Survey of the American Teacher. (1999, May). *Violence in America's public schools- 5 years later*. New York, NY. Louis Harris and Associates, Inc.
- McIvor, R. J., & Turner, S. W. (1995). Drug treatment in post-traumatic stress disorder. *British Journal of Hospital Medicine*, 53(10), 501-506.
- Monnelley, E. P., Ciraulo, C. T., Knapp, C., & Keane, T. (2003). Low-dose risperidone as adjunctive therapy for irritable aggression in posttraumatic stress disorder. *Journal of Clinical Psychopharmacology*, 23(2), 193-196.
- Noddings, N. (1988). An ethic of caring and its implications for instructional arrangements. *American Journal of Education*, 96, 215-230.
- Olafsen, R. N., & Viemero, V. (2000). Bully/victim problems and coping with stress in school among 10-12-year-old pupils in Aland, Finland. *Aggressive Behavior*, 26,57-65.
- Olweus, D. (1993). *Bullying at school: What we know and what we can do*. Oxford: Blackwell.
- O'Moore, M. & Kirkham, C. (2001). Self-esteem and its relationship to bullying behaviour. *Aggressive Behavior*, 27(4), 269-283.
- Osterman, K. (2001). Students' need for belonging in the school community. *Review of Educational Research*, 70(3), 323-367.
- Reid, J., Patterson, G. & Snyder, J. (2002). *Antisocial behavior in children and adolescents: A developmental analysis for intervention*. Washington, D.C.: American psychological Association.
- Rogers, K. L. (1996). Posttraumatic stress disorder in a sample of conduct disordered youth. *Dissertation Abstracts International, Section B: The Sciences & Engineering*, 57(12-B), 2163.
- Silver, J. M., Sandberg, D. P., & Hales, R. E. (1990). New approaches in the pharmacotherapy of posttraumatic stress disorder. *Journal of Clinical Psychiatry*, 51, 33-38; 44-46.
- Smith, P., & Brain, P. (2000). Bullying in schools: Lessons from two decades of research. *Aggressive behavior*, 26, 1-9.
- Solomon, S., Gerrity, E. & Muff, A. (1992). Efficacy of treatment for posttraumatic stress disorder: Empirical review. *Journal of the American Medical Association*, 268, 633-638.
- Soskis, D. A., Orne, E. C., & Orne, M. T. (1986). Self-hypnosis and meditation for stress management. *International Journal of Clinical & Experimental Hypnosis*, 37(4), 285-289.
- Terr, L. C. (1991). Childhood traumas: An outline and overview. *American Journal of Psychiatry*, 148, 10-20.
- United States Secret Service and United States Department of Education. (2002a). *The Final Report and findings of the safe school initiative; Implications for the prevention of School Attacks in the United States*. Washington, DC: US Department of Education.
- United States Secret Service and United States Department of Education. (2002b). *Threat assessment in schools: A guide to managing threatening situations and to creating safe school climates*. Washington, DC: US Department of Education.
- Vossekuil, B., Reddy, M., Fein, R., Borum R., & Modzeleski, W. (2000). *Safe school initiative: An interim report on the prevention of targeted violence in schools*. U.S. Secret Service National Threat Assessment Center. www.ustrea.gov/uss/ntac_ssi_report.pdf
- Zahn, B. (1995). *Stress symptoms in 11-16-year old victims of child sexual abuse*. Unpublished doctoral dissertation, Temple University, Philadelphia.
- Zelikoff, W. (1986). *Evidence for a new diagnostic construct: Educator-induced posttraumatic stress disorder*. Unpublished manuscript.

Changes in Latino Students' Perceptions of School Belonging Over Time: Impact of Language Proficiency, Self-Perceptions and Teacher Evaluations

Gale M. Morrison, Merith A. Cosden,
Stacy L. O'Farrell, and Emily Campos
University of California, Santa Barbara

There are many factors associated with academic success at school. In addition to having the requisite cognitive abilities and scholastic skills, students need to feel that school is a place in which they belong. This study examines factors related to perceptions of school belonging for a sample of Latino elementary school students. Participants were 57 Latino youth, 26 of whom were English Language Learners and the rest of whom were English proficient. Students were assessed in fourth and sixth grades in this longitudinal study. Self-perceptions and teacher perceptions of these students were available at the beginning and end of each academic year. The results indicated that in fourth grade English Language Learners had a decrease in school belonging while their English proficient classmates did not. Factors associated with school belonging differed between the fourth and the sixth grades. In addition to the impact of language proficiency, fourth graders' sense of belonging was associated with teacher evaluations while sixth graders' perceptions were primarily affected by peer self-concept. Implications for school psychologists and other educational professionals are discussed.

Keywords: School belonging, Latino youth

There is mounting evidence that social-emotional adjustment and feelings of school belonging facilitates positive academic progress (Finn & Rock, 1997; Ladd, 1990). School belonging is used in this paper as an umbrella term to encompass a variety of related constructs in the literature, including school connectedness, membership, bonding, engagement, and affiliation (see review by Jimerson, Campos, & Greif, this issue; Osterman, 2000). This variety in constructs reflects the confusion (lack of consensus) that has characterized understanding the nature of a student's emotional and behavioral connection to school. The term school belonging will be used in this paper to characterize this construct because it best matches the social and emotional nature of the students' school connections that were the target of this investigation. We adopt the definition proposed by Goodenow (1993a); "the extent to which students feel personally accepted, respected, included, and supported by other in the school social environment" (p. 80).

Importance of School Belonging

Evidence for the importance of school belonging is derived from a number of traditions in education-related research. For example, the literature on school reform finds that effective schools are those that have students and staff who report connections to the schooling enterprise. That is, effective schools

This work was supported by a grant from Gevirtz Research Center at the University of California, Santa Barbara. Inquiries should be directed to Gale M. Morrison at the Graduate School of Education, University of California, Santa Barbara, 93106 or email gale@education.ucsb.edu.

are those that have a positive climate, where students feel that they belong (Reynolds, Teddlie, Creemers, Scheerens, & Townsend, 2000). In analyzing schooling functions that contributed to student drop-out, Wehlage, Rutter, Smith, Lesko, and Fernandez, (1989) emphasized the importance of educational engagement and social belonging for students at-risk for leaving school. They use these data to provide a rationale for developing schools as "communities of support" for students and staff alike. Other researchers have also reported a relationship between being disconnected from school and dropping out (Finn & Rock, 1997; Rumberger & Larson, 1998).

The drug and alcohol prevention literature also finds that the extent to which the child or adolescent is bonded to his or her family, school, and community is an important protective factor in avoiding substance abuse (Hawkins, Guo, Hill, Battin-Pearson, & Abbott, 2001). Similarly, it has been proposed that a lack of attachment and bonding to school is a factor in the development of delinquency (Cernkovich & Giordano, 1992; Joseph, 1996; O'Donnell, Hawkins, & Abbott, 1995). These negative behaviors have obvious deleterious effects on a student's ability to perform adequately in school.

School belonging has also been related to academic motivation and achievement. Goodenow (1993b) and others (e.g., Ryan & Powelson, 1991) suggest that stable and satisfying relationships with teachers and peers at school are critical to maintaining motivation and engagement in academic endeavors. Goodenow (1993b), in a study of 353 6th, 7th, and 8th grade students found a significant relationship between perceptions of school belonging, teacher support, and peer support. Engagement in the tasks of school is related to academic outcomes (Connell, Spencer, & Aber, 1994; Marks, 2000), whereas lack of engagement often results in disruptive school behavior and poor school performance (Finn, Pannozzo, & Voelkl, 1995; Finn & Rock, 1997).

Despite evidence that school belonging has an important influence on school performance (Goodenow, 1993b; Gutman & Midgley, 2000), little is known about the developmental aspects of school belonging. Although it is anticipated that different factors will be associated with school belonging at different grade levels, evidence must be extrapolated from separate studies that focus on single grade levels or single grade level spans (elementary, junior high, high school). Developmental trajectories between or within grade level spans have not been widely examined. One example is the Goodenow (1993b) study, which did not find differences between 6th, 7th, and 8th grade students on school bonding; however, the association between expectancies for success and belonging did change, decreasing over time. Hawkins et al. (2001) documented differential changes in school bonding trajectories of control versus intervention groups for students starting age 13 until they were 18. Bonding levels decreased in general, but less severely for the intervention group.

Studies were not found for elementary-age students with regard to the nature of their bonds to school and factors that influence these bonds across time. Nevertheless, early perceptions of oneself as a student, and of school as a place in which one belongs, are critical to developing a strong grounding in school.

Finally, greater understanding is needed of the factors related to the development of perceptions of school belonging for diverse students. There is conflicting evidence about differences between ethnic groups on school belonging. Goodenow and Grady (1993) did not find differences between White/Anglo, African-American, and Hispanic junior high school students on a measure of school belonging. However, Finn, Folger and Cox (1991) found that school participation was greater for nonminority elementary school students. Finn and Rock (1997) found differences between African-American and Hispanic high school students on school engagement measures, the valence of this difference depending on the type of engagement measures utilized (African-American students participating more in extracurricular sports and Hispanic students doing more homework). Difference between studies are

likely affected by the age of participants and by the type of measurement of school belonging used (see O'Farrell & Morrison in this issue). In general, the associations between school belonging and other variables such as academic outcomes and personal social variables has been established for Latinos, African-Americans, and White/Anglo students (Goodenow & Grady, 1993; Tucker et al., 2002). However, it is also important to look at within group variations for the different ethnic groups.

Of particular interest in this study of Latino students is the issue of second language learners experience of a cultural and language mismatch within many English-dominated schools. This mismatch may affect perceptions of school belonging, and subsequent risk for school failure. Thus, it is important to study predictors of student perceptions of school belonging to school (Finn & Rock, 1997), particularly in populations of students who may be at-risk for negative school outcomes.

Influences on School Belonging

A student's view of him or herself as a student affects how he or she experiences various aspects of school belonging (Osterman, 2000). For example, self-perceptions affect the extent to which a student engages in the tasks of school. Tucker et al. (2002), in a study of 117 African-American students in the 1st through the 12th grades, found that African-American students' self-perceptions of competence and relatedness contributed to their academic engagement. Making the link to school performance, Connell, Halpern-Felsher, Clifford, and Crichlow (1995) suggest that individual psychological influences on achievement are mediated through school engagement.

How a student feels about peer relationships may also predict his or her sense of belonging to school. Positive peer relationships contribute to later social-emotional adjustment (Ladd, 1990). Dissatisfaction with peer relationships and feeling alienated from social organizations is related to poor social-emotional adjustment (Newman, 1981). As well, positive peer relationships help a student bond to the school and school belonging is a factor that prevents student dropout (Battin-Pearson et al., 2000). Peer relationships are such a vital aspect of the school experience that difficulties with peer relationships or feelings of alienation from peers can result in a lack of commitment or a sense of disconnectedness from school (Buhs & Ladd, 2001; Cernkovich & Giordano, 1992).

An examination of developmental aspects of school belonging should include an examination of peer connections. The need for and importance of belonging takes on special significance during the adolescent years when changes are occurring in personal identity and affiliations (Berndt & Keefe, 1995). Reflecting the change in importance of peer connections across time, Lynch and Cicchetti (1997) report that students in junior high school experienced higher levels of relatedness to peers and decreased levels to adults in comparison to elementary-age students. Although these authors did not measure relatedness to the "school" in general, the developmental trend found does suggest that feelings of psychological bonding to peers versus adults (independent of context) may change over time, especially as students enter into adolescence.

Teacher-student relationships also affect a student's sense of school belonging (Birch & Ladd, 1997; Connell et al., 1995; Skinner & Belmont, 1993). Quality student-teacher connections are critical for confidence building, motivation, and risk-taking (Whisler, 1991). Teacher behaviors help students fulfill their basic needs of competence, autonomy, and relatedness (Connell, 1990). Tucker et al. (2002) in their study found that students who reported that their teachers were more interested and involved in their lives reported higher levels of school engagement.

Teacher-student interactions are critical to the educational process (Buriel, 1983) and as such are likely to affect both students' feelings of belonging and teachers' evaluations of students. Teachers respond more positively to students who are cooperative than to those who are disruptive and irrespon-

sible (Brophy & Evertson, 1981). Buriel found that Mexican-American children received less teacher affirmation following correct responses than their Anglo-American classmates, even after controlling for socioeconomic status, achievement, and English Proficiency. While "affirmation" was an observed variable in the Buriel study, it could be the case that the attitudinal counterpart, grading and evaluation, works in parallel, both having impacts on student performance and belonging.

Research on school belonging with Latino students is somewhat limited. Addressing this weakness in our knowledge about school belonging is critical, given the relationship between school belonging and the high dropout rates for Latino youth. The high school dropout rate for Hispanics (28.6%) is approximately four times higher than for non-Hispanic Whites (7.3%; National Center for Educational Statistics, 2002). While the role of limited English proficiency in this relationship and with school performance is evident (Trueba, 1988), the relationship between language mismatch and the extent to which these students identify and feel connected to school has had limited attention. How one feels about cultural features such as language is one aspect of ethnic identity development, which is an important contributor to overall mental health and adjustment (Baca & Cervantes, 1989; Nieto, 1996; Phinney, 1990).

A language mismatch between students and the dominant school language is exacerbated with the current pressure in California, Texas, and Arizona to eliminate bilingual education via English-only laws in the school setting, even though a good proportion of the Latino population continues to speak Spanish (Dana, 1993). In this climate, investigators hypothesize that students who want to maintain a positive ethnic identity may distance themselves from schools that are implementing policies that devalue their home language (Darder, 1995; Nieto, 1996). In an empirical study of this, Alvarez (2003) surveyed over 300 Latino students in the 4th through the 6th grades, 77% of whom were English Language Learners. She found that a match between student preferences with regard to language use and school-based language-laden activities was related to higher levels of school belonging. The issue of language has also been related to teacher behavior, as Laosa (1977) found that teachers' disapproving behavior was related to students' English proficiency and not to ethnic group membership.

The Current Study

Understanding the developmental dynamics of school belonging for Latino students is important given the relationship between lack of connection to school and dropout rates. However, it is equally important because school belonging is a protective factor that enhances the probability of school success and persistence (Conchas, 2001; Hawkins et al., 2001). The current investigation was designed to explore factors that contribute to the development of school belonging in elementary Latino students. The analyses explored the impact of self-perceptions of academic and peer competence, language proficiency, and teacher evaluations of academic performance and behavior on changes in attitudes of school belonging across the academic year. These relationships are investigated for a group of students in the fourth grade and again in the sixth grade.

METHOD

Participants

Participants in this study were students in a study on after-school programs in three elementary schools in Southern California. Latinos were the largest ethnic group represented in these schools (46%, 52% and 95% across schools) with White students the next largest in representation (42%, 45% & 3% respectively). This study was conducted during a transitional period in the school district with

regard to English language instruction. While all three schools offered bilingual programs at the beginning of the project, state and local mandates to promote English immersion were instituted during the last year of the study.

All 4th grade students in the three schools were invited to participate in a longitudinal study on a school-based homework project, with half of them assigned to the program and half serving as their controls. Students in either group who received assessments at the beginning and end of 4th and 6th grades are included in the present study. While 81 Latino students were part of the initial sample, longitudinal data were available on 57 Latino students at the beginning and end of grades 4 and 6. Attrition was largely a function of the mobility of the sample, as many of the families were low-income and moved during this time for fiscal reasons. This final sample was 48% male and 52% female. Students were classified at the beginning of the study as either being English Language Learners or being English proficient based on their school's functional assessment of their need for special language instruction (Language Assessment Scales). Forty-six percent of these students were categorized as English Language Learners and 44% as English Proficient.

Procedures and Measures

Student perceptions of their peer relations and academic strengths and teacher ratings of the students' behavior and academic strengths were examined in relation to student perceptions of school belonging. Both White and Latino researchers, some of whom were bilingual in Spanish and English, administered the student questionnaires in a large group session. All measures were available in English and Spanish; students were allowed to choose the translation with which they felt most comfortable. Students were administered the self-report surveys in a large group either after school or at lunch, with supervision by a graduate student research assistant. Classroom teachers completed ratings on all students who participated in the project. Assessments were administered at the beginning and end of the fourth and sixth grade school years for participants.

Academic and peer self-concept. The *Self-Description Questionnaire* (SDQ; Marsh, Smith, & Barnes, 1984) was used to assess academic and peer self-concept. In this study, the Peer Relations (nine items) and General Academics (nine items) factors of the SDQ were administered. The items of the SDQ are phrased as simple declarative sentences (e.g., "I make friends easily;" "I enjoy doing work in all school subjects"). Students are asked to respond using one of five response categories ranging from (1) false to (5) true. The alpha coefficients for academic self-concept in the fourth and sixth grades, respectively were .81 and .87; for peer self-concept they were .85 and .90, respectively.

Teacher report. Teachers completed a behavior rating scale on each student. The instrument consisted of items derived from the *Teacher-Child Rating Scale* (TCRS; Hightower, 1986) and the *Behavioral and Emotional Rating Scale* (BERS; Epstein & Sharma, 1998). Items chosen for this measure are those that had the highest loading for their factors as reported by Hightower and Epstein and Sharma. Items selected from the original 25 items on the TCRS were the five highest-loading on the Acting-Out factor (e.g., "Those who are disruptive in class," "Those who constantly seek attention," and "Those who disturb others while they are working"). Items from the BERS included the five highest loading items from the School Functioning factor (e.g., "Those who complete school tasks on time," "Those who complete homework regularly," "Those who complete a task on the first request").

The format of these rating scale differed for this study from that of the original instruments due to teacher time constraints. Teachers were asked to check those students who resembled the characteristics, or displayed the behaviors outlined in the items. Answers were coded either "1" for characteristic present or "0" for characteristic absent. This method of response was validated for the Pupil Evaluation

Inventory (PEI; Pekarik, Prinz, Liebert, Weintraub, & Neil, 1976). Alpha coefficients, calculated using the PEI format of this scale for the current sample were found to be .87 and .84, respectively for the fourth and sixth grade School Functioning factors and .83 and .82, respectively, for the fourth and sixth grade Acting-Out factors.

School belonging. To measure school belonging, the Psychological Sense of School Membership scale (PSSM; Goodenow, 1993a) was used. The PSSM is an 18-item scale developed for use with early and mid-adolescent students. The PSSM includes items about the student's perceived likeability, personal acceptance, inclusion, respect, and encouragement from others (e.g., "People at this school are friendly to me," "I can really be myself at this school," "I am included in lots of activities at this school," "The teachers here respect me," "People here know I can do good work"). Students rate the items on a five-point scale, with choices ranging from (1) *false* to (5) *true*. Internal consistency reliabilities for this sample in the pre and post administrations in the fourth grade were .80 and .85, respectively; for the sixth grade they were .90 and .92, respectively.

RESULTS

In order to examine the effects of English proficiency on students' feelings of belonging, two one-way repeated measures analyses of variance were performed (one for fourth grade and one for sixth grade) with English proficiency designation as the independent variable and fall and spring measures of school belonging as the repeated measures. At the fourth grade level, the main effect for English Proficiency was not significant; i.e., no differences were found between students who were English Language Learners and those who were English Proficient. There was a significant interaction between language proficiency and change in school belonging, $F(1, 55) = .5.72, p = .02$. A lower score on school belonging was evident for English Language Learners at the end of the academic year. At the sixth grade level, no differences were found for the main effect for language proficiency or for the interaction of language proficiency and the repeated measure of school belonging. Table 1 displays the school belonging means for each English proficiency group in the fourth and sixth grade.

In order to examine the contribution of English proficiency, self-perceptions of academic and social competence, and teacher academic and behavioral ratings to school belonging, hierarchical multiple regression analyses were performed for data collected during the fourth and sixth grades. Student

Table 1
Means and Standard deviations of Fall and Spring School Belonging for groups with differing English Proficiency

	Student Ratings of School Belonging			
	Fall		Spring	
	M	SD	M	SD
Grade 4				
English Proficient	4.06	.11	4.09	.15
English Language Learners	4.03	.10	3.65	.14
Grade 6				
English Proficient	3.66	.15	3.61	.16
English Language Learners	3.85	.13	3.98	.14

reports of school belonging at the end of the fourth grade and sixth grade were used as the dependent variables in this analysis. Their ratings of school belonging during the fall of the academic year were entered at Step 1 as a control, so that the criterion measure was change in student reports of school belonging across the fourth or sixth grade school year. Student English proficiency status was entered at Step 2 in order to isolate the contribution of this variable. At Step 3, the self and teacher ratings were entered to assess their relative contribution to increases or decreases in school belonging.

At the fourth grade level, a significant amount of variance was accounted for by the fall rating of school belonging (see Table 2). There was also a significant change in the total amount of variance explained when English proficiency was as a variable. Finally, there was a significant increase in the variance accounted for upon entry of the self and teacher ratings. Significant ratings within this latter group were peer self-concept and teacher rating of school functioning. Fall rating of school belonging remained significant within the full model; however, English proficiency dropped below significance ($p = .126$) upon entry of the self and teacher ratings.

A similar analysis was performed for sixth grade data (see Table 3). A significant increase in variance was evident upon entry of the fall ratings of school belonging. A significant contribution of English proficiency at this step was not found. A significant increase in the R^2 was found with the entry of the self and teacher ratings. Peer self-concept was a significant contributor to the increase in variance at the second step. Fall ratings of school belonging remained significant in the final model.

DISCUSSION

This study investigated what contributes to school belonging at the fourth and then again at the sixth grade for a group of Latino elementary school students. A unique contribution of this study was the opportunity afforded to look at predictors of the change of school belonging across an academic year and then again across an academic year two years later. Thus, these results emphasize variables associated with changes in school belonging at two different developmental levels; mid-elementary and late-elementary school years.

Table 2
The Contribution of English Proficiency, Self-Perceptions and Teacher Ratings to Change in School Belonging in the Fourth Grade

	School Belonging in Spring		
Step/Predictor Variables	B at final step	R ²	R ² change
1. Fall School Belonging	.208*	.286	.286***
2. English Proficiency	-.123	.357	.072*
3. Self and Teacher Ratings		.713	.356***
Academic Self-Concept	.142		
Peer Self-Concept	.553***		
Teacher – School Functioning	.247**		
Teacher – School Behavior	-.096		

Note. All beta values reported in this table are those obtained for the entire regression equation rather than those obtained at each step of the hierarchical procedure.

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 3
The Contribution of English Proficiency, Self-Perceptions and Teacher Ratings to Change in School Belonging in the Sixth Grade

Step/Predictor Variables	School Belonging in Spring		
	B at final step	R ²	R ² change
1. Fall School Belonging	.198	.274	.274***
2. English Proficiency	.188	.305	.031
3. Self and Teacher Ratings		.634	.329***
Academic Self-Concept	.098		
Peer Self-Concept	.523***		
Teacher – School Functioning	-.009		
Teacher – School Behavior	.180		

Note. All beta values reported in this table are those obtained for the entire regression equation rather than those obtained at each step of the hierarchical procedure.

* $p < .05$ ** $p < .01$ *** $p < .001$

Latino students, who are not fully English proficient, face the challenge of learning in a school environment that emphasizes a language that is different from their native language. This language mismatch disadvantages them in their ability to perform academically on a par with their fully English proficient classmates (Cosden, Morrison, Albanese, & Macias, 2001). The data presented in this article also address the extent to which English proficiency differences are associated with levels of school belonging.

School Belonging in Fourth Grade

The results indicated that starting school as an English Language Learner had deleterious effects on school belonging across the fourth grade academic year; those students who were English Language Learners showed a decrease in school belonging while their English proficient classmates did not. These findings mirrored those of Alvarez (2003), indicating that a mismatch in the language proficiency of the student and the language emphasis of the school negatively affects school belonging. The Alvarez study was conducted with a population of students who were also Latino and of elementary school age. This comparability in findings, therefore, leads to more confidence in a declaration that language proficiency status is an important correlate of school belonging.

Examination of the change in school belonging across the fourth grade year, which was above and beyond the belonging ratings at the beginning of the year, indicated that peer self-concept and teacher ratings of school functioning were critical contributors to change in school belonging. Overall, students had a higher sense of school belonging when they also felt good about their peer relationships and when teachers reported they were doing well in school. Although the repeated measures ANOVA indicated that English Language Learners decreased in their feelings of belonging across the year, the English proficiency variable did not maintain a significant prediction in the regression analysis. It is likely that the teacher rating of academic competence incorporated information about language proficiency (shared variance with English Proficiency status) and added additional, addition information about other areas of academic functioning.

School Belonging in Sixth Grade

The results of this study indicate that the pattern of relationships with school belonging differs in the fourth and sixth grades. English proficiency is no longer a factor in changes that take place with regard to how students feel connected to school at sixth grade. One might assume that English proficiency is not as salient an issue as academic performance at this point in a student's elementary career. However, it is noteworthy that teacher evaluation is not a significant factor in students' sense of school belonging either, despite its significance in the fourth grade. Rather, peer self-concept significantly predicts school belonging. The importance of peer self-concept suggests a continued salience of peer relationships to how a student feels about school. The lack of significance of the teacher evaluation at this point may signal student shift from adult to peer sources of support and attention, typical of the adolescent years and supporting the Lynch and Cicchetti (1997) findings.

Summary and Implications

The results of this study suggest that the dynamics of school belonging change for Latino students from the fourth to the sixth grade. In the fourth grade, language status was an important contributor to perceptions of school belonging, as were teacher evaluations, which may be communicated to students in both subtle and unsubtle ways throughout the span of the academic year. In many schools, primary emphasis is placed on learning English, sometimes to the exclusion of Spanish language from the academic data of students whose primary language is English. Our results suggest that students in the fourth grade who are English Language Learners experience a decline in their sense of belonging to school. Although the decline could also be associated with academic struggles associated with language proficiency struggles, the decline with this group signals the importance of attending to how these students are feeling in terms of their connection to school. Although speaking and learning in their native language is not encouraged, that does not mean that an overall appreciation of their native language and culture should not be communicated. There are a variety of ways, through curriculum and through activities designed to welcome those from another culture and honor or recognize their differences that schools can enhance students feeling of belonging to school. To the extent that their language transitions also hurt their academic achievement, it is especially important to provide opportunities for positive participation and success in school activities.

In contrast, two years later, students' perceptions of school belonging were dependent on their evaluations of peer relationships, the associations with language proficiency and teacher evaluations of competence dropping away. While it is likely that adult evaluations and communications still influenced school belonging, peer relationships had taken on particular salience. At the sixth grade, educators face the challenge of competing for student attention to academic tasks with the salience of peers and the heightened attention to members of the opposite sex. Additionally, the positive association of peer self-concept to school belonging can present other challenges to maintaining student connection to school. If a student is experiencing positive peer relationships, they are likely to look forward to coming to school and engaging in tasks (academic) that are required to be part of that community. On the other hand, the risks associated with negative peer relationships may jeopardize already tenuous academic connections and motivation in school. School psychologists can play a critical role in schools with regard to highlighting the importance of peer relationships and providing intervention and support for students and staff in that area.

These results may inform the practice of school psychologists as they assist with prevention and intervention within the school context. For example, the present results indicate that programmatic efforts to increase students' sense of belonging at school should change developmentally. For fourth

graders, it appears that teacher perceptions of academic functioning and student perception of peer relationships are related to a sense of school belonging. Given these associations at this age, teacher-led interventions at the classroom level may successfully facilitate the development of school belonging in students for whom English is a second language. Programs such as the Child Development Project (CDP; Battistich, Schaps, Watson, Solomon & Lewis, 2000), which aim to increase sense of community within elementary schools, include principles that could be applied when working with academically at-risk LEP students during the elementary years. The four major principles of the CDP are: (1) build stable, warm, and supportive relationships, (2) attend to the social and ethical dimensions of learning, (3) teach to the active mind, and (4) honor intrinsic motivation. This program is applied at the classroom, school-wide, and familial level. Within the classroom, the principles are infused into every classroom activity, primarily through cooperative learning. Cooperative learning is nothing new, however, if applied within a classroom that honors and supports multiculturalism, these activities may help to facilitate a sense of belonging that can serve as a protective factor while they overcome the struggles of learning a new language. Working with peers will foster new relationships, and if given the chance to share and explore their own histories within the school environment, they may experience a sense of competence and acceptance.

These principles can also be applied at the sixth grade level; however, given our results, activities may be more effective at the small group level. In sixth grade peer relationships are closely related to a sense of school belonging, so activities that foster development in this area may be most effective. School psychologists may want to work with these students in groups, and develop activities that will allow them to experience competence. For example, they can be paired with younger students and encouraged to “show them the ropes” at their new school.

While the longitudinal aspect of this investigation was a strength, the relatively small number of subjects available at both grade levels is a limitation. It is possible that with a larger sample, a greater number of teacher and student self ratings would have been significant. Therefore, the conclusions and implications drawn from this study are done so with caution. However, our findings do imply the importance of considering the developmental influences on bonding and point to the importance of targeting interventions to enhance school connection, mindful of the influences that are most salient for a particular age group. As students enter pre-adolescence and adolescence, the power of their peer relationships as a focus of their attention may provide a critical entry point for enhancing school connections.

REFERENCES

- Alvarez, M. (2003). *Hispanic Pre-adolescents' academic resilience: Examining gender, Hispanicism, and school belonging, as predictors of academic achievement, and relating level of linguistic validation in the school context to school belonging*. Unpublished doctoral dissertation, University of California, Santa Barbara.
- Baca, L., & Cervantes, H. (1989). *The bilingual special education interface* (Vol. 2nd ed.). New York: Merrill.
- Battin-Pearson, S., Newcomb, M. D., Abbott, R. D., Hill, K. G., Catalano, R. F., & Hawkins, J. D. (2000). Predictors of early high school dropout: A test of five theories. *Journal of Educational Psychology, 92*, 568-582.
- Battistich, V., Schaps, E., Watson, M., Solomon, D., & Lewis, C. (2000). Effects of the Child Development Project on students' drug use and other problem behaviors. *The Journal of Primary Prevention, 21*(1), 75-99.
- Berndt, T. J., & Keefe, K. (1995). Friends' influence on adolescents' adjustment to school. *Child Development, 66*, 1312-1329.
- Birch, S. G., & Ladd, G. W. (1997). The teacher-child relationship and children's early school adjustment. *Journal of School Psychology, 35*, 61-79.
- Brophy, J. E., & Evertson, C. M. (1981). *Student characteristics and teaching*. New York: Longman.
- Buhs, E. S., & Ladd, G. W. (2001). Peer rejection as antecedent of young children's school adjustment: An examination of mediating processes. *Developmental Psychology, 37*, 550-560.
- Buriel, R. (1983). Teacher-student interactions and their relationship to student achievement: A comparison of Mexican-American and Anglo-American children. *Journal of Educational Psychology, 75*, 889-897.

- Cernkovich, S. A., & Giordano, P. G. (1992). School bonding, race, and delinquency. *Criminology*, 30, 261-290.
- Conchas, G. Q. (2001). Structuring failure and success: Understanding the variability in Latino school engagement. *Harvard Educational Review*, 71, 475-504.
- Connell, J. P. (1990). Context, self, and action: A motivational analysis of self-system processes across the life span. In D. Cicchetti & M. Beeghly (Eds.), *The self in transition: Infancy to childhood* (pp. 61-97). Chicago: University of Chicago Press.
- Connell, J. P., Halpern-Felsher, L., Clifford, E., & Crichlow, W. (1995). Hanging in there: Behavioral, psychological, and contextual factors affecting whether African-American adolescents stay in high school. *Journal of Adolescent Research*, 10, 41-63.
- Connell, J. P., Spencer, M. B., & Aber, J. L. (1994). Educational risk and resilience in African-American youth: Context, self, action, and outcomes in school. *Child Development*, 65, 493-506.
- Cosden, M.A., Morrison, G.M., Albanese, A.L., & Macias, S. (2001). *Evaluation of the Gevirtz Homework Project: Final Report*. Santa Barbara, CA: Gevirtz Research Center, University of California, Santa Barbara.
- Dana, R. (1993). *Multicultural assessment perspective for professional psychology*. Boston: Allyn & Bacon.
- Darder, A. (1995). Bicultural identity and the development of voice: Twin issues in the struggle for cultural and linguistic democracy. In J. Frederickson (Ed.), *Reclaiming our voices* (pp. 35-52). Los Angeles: California Association for Bilingual Education.
- Finn, J. D., Folger, J., & Cox, D. (1991). Measuring participation among elementary grade students. *Educational and Psychological Measurement*, 51, 393-402.
- Finn, J. D., Pannozzo, G. M., & Voelkl, K. E. (1995). Disruptive and inattentive-withdrawn behavior and achievement among fourth graders. *Elementary School Journal*, 95, 421-434.
- Finn, J. D., & Rock, D. A. (1997). Academic success among students at risk for school failure. *Journal of Applied Psychology*, 82, 221-234.
- Goodenow, C. (1993a). Classroom belonging among early adolescent students: Relationships to motivation and achievement. *Journal of Early Adolescence*, 13, 21-43.
- Goodenow, C. (1993b). The psychological sense of school membership among adolescents: scale development and educational correlates. *Psychology in the Schools*, 30, 79-90.
- Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *Journal of Experimental Education*, 62, 60-71.
- Gutman, L. M., & Midgley, C. (2000). The role of protective factors in supporting the academic achievement of poor African American students during the middle school transition. *Journal of Youth and Adolescence*, 29, 223-248.
- Hawkins, J. D., Guo, J., Hill, K. G., Battin-Pearson, S., & Abbott, R. D. (2001). Long-term effects of the Seattle Social Development Intervention on school bonding trajectories. *Applied Developmental Science*, 5, 225-236.
- Hightower, A. D. (1986). The Teacher-Child Rating Scale: A brief objective measure of elementary children's school problem behaviors and competencies. *School Psychology Review*, 15, 393-409.
- Joseph, J. (1996). School factors and delinquency: A study of African American youths. *Journal of Black Studies*, 26, 340-355.
- Ladd, G. W. (1990). Having friends, keeping friends, making friends, and being liked by peers in the classroom: Predictors of children's early school adjustment. *Child Development*, 61, 1081-1100.
- Laosa, L. M. (1977). Inequality in the classroom: Observational research on teacher-student interactions. *Aztlan: International Journal of Chicano Studies Research*, 8, 51-67.
- Lynch, M., & Cicchetti, D. (1997). Children's relationships with adults and peers: An examination of elementary and junior high school students. *Journal of School Psychology*, 35, 81-99.
- Marks, H. M. (2000). Student engagement in instructional activity: Patterns in the elementary, middle, and high school years. *American Educational Research Journal*, 37, 153-184.
- Marsh, H. W., Smith, I. D., & Barnes, J. (1984). Multidimensional self-concepts: Relationships with inferred self-concepts and academic achievement. *Australian Journal of Psychology*, 36(3), 367-386.
- National Center for Education Statistics. (n.d.). *NCES fast facts: Dropout rates*. Retrieved November 29, 2002, from <http://www.nces.ed.gov/fastfacts/display.asp?id=16>.
- Newman, F. M. (1981). Reducing student alienation in high schools: Implications of theory. *Harvard Educational Review*, 51, 546-564.
- Nieto, S. (1996). *Affirming diversity: The sociopolitical context of multicultural education* (2nd ed.). White Plains, NY: Longman.
- O'Donnell, J., Hawkins, J. D., & Abbott, R. D. (1995). Predicting serious delinquency and substance use among aggressive boys. Special Section: Prediction and prevention of child and adolescent antisocial behavior. *Journal of Consulting & Clinical Psychology*, 63(4), 529-437.
- Osterman, K. F. (2000). Students' need for belonging in the school community. *Review of Educational Research*, 70, 323-367.

- Pekarik, E., Prinz, R., Liebert, D., Weintraub, S., & Neil, J. (1976). The pupil evaluation inventory: A sociometric technique for assessing children's social behavior. *Journal of Abnormal Child Psychology, 4*, 83-97.
- Phinney, J. S. (1990). Ethnic identity in adolescents and adults: Review of research. *Psychological Bulletin, 108*, 499-514.
- Reynolds, D., Teddlie, C., Creemers, B., Scheerens, J., & Townsend, T. (2000). An introduction to school effectiveness research. In C. Teddlie & D. Reynolds (Eds.), *The international handbook of school effectiveness research* (pp. 3-25). London: Falmer Press.
- Rumberger, R. W., & Larson, K. A. (1998). Student mobility and the increased risk of high school dropout. *American Journal of Education, 107*(1), 1-35.
- Ryan, R. M., & Powelson, C. L. (1991). Autonomy and relatedness as fundamental to motivation and education. *Journal of Experimental Education, 60*, 49-66.
- Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology, 85*, 571-581.
- Trueba, H. (1988). Peer socialization among minority students: A high school dropout prevention program. In H. Trueba & C. Delgado-Gaitan (Eds.), *In school and society: Learning content through culture* (pp. 201-217). New York: Praeger Press.
- Tucker, C. M., Zayco, R. A., Herman, K. C., Reinke, W. M., Trujillo, M., Carraway, K., et al. (2002). Teacher and child variables as predictors of academic engagement among low-income African American children. *Psychology in the Schools, 39*, 477-488.
- Wehlage, G. G., Rutter, R. A., Smith, G. A., Lesko, N., & Fernandez, R. (1989). *Reducing the risk: Schools and communities of support*. New York: The Falmer Press.
- Whisler, J. S. (1991). The impact of teacher relationships and interactions on self-development and motivation. *Journal of Experimental Education, 60*, 15-30.

Multiple Contexts of School Engagement: Moving Toward a Unifying Framework for Educational Research and Practice

Michael J. Furlong, Angela D. Whipple, Grace St. Jean,
Jenne Simental, Alicia Soliz, and Sandy Punthuna
University of California, Santa Barbara

This article discusses the school engagement literature and offers a conceptual framework with the intention of developing a common terminology to more efficiently organize research and practice. Three distinct perspectives are outlined in relation to school engagement: psychological, educational, and developmental. Four main contexts of school-based engagement are identified, including the student, peers, classroom, and the school environment. Although some researchers have focused on students at risk for negative developmental outcomes, the proposed model postulates that all youth benefit from school engagement. Overall, the intent of this new framework is to support efforts to promote positive student outcomes, increase psychosocial competence and efficacy, and promote life-long learning.

Keywords: School engagement, School connections, School bonding, Context

The importance of the tasks associated with forming and maintaining positive and supportive social bonds is crucial to the emotional well being of the developing child - in fact, these attachments are thought to be a fundamental human need (Baumeister & Leary, 1995). As a central developmental context for children, schools are an important setting in which social attachments are formed and nurtured (Abbott, O'Donnell, Hawkins, Hill, Kosterman, & Catalano, 1998). The importance of the school as a source in developing positive social skills and interpersonal attachments is recognized in the risk and resilience literature. Researchers have demonstrated that positive interpersonal attachments involving teachers and peers have a protective influence because they are associated with reduced risk of long-term negative outcomes such as substance abuse (Guo, Hawkins, Hill, & Abbott, 2001; Hawkins, Catalano, & Miller, 1992), depression (Mylant, Ide, Cuevas, & Meehan, 2002), and antisocial-delinquent behavior (Morrison, Robertson, Laurie, & Kelly, 2002; Walker, Stieber, Ramsey, & O'Neill, 1993).

Early research concerning the protective influence of school involvement has focused on how some youth struggle academically, experience discipline problems, and eventually disengage from school, or even worse, drop out altogether (Sinclair, Christenson, Elevo, & Hurley, 1998). These youth were described as alienated or detached from the schooling process. More recently, research has taken an increasingly positive perspective by examining the protective influences of social and interpersonal forces in the school itself. Drawing from various fields of inquiry, this phenomenon has been referred to as "school engagement," "school bonding," or "school connections." Researchers note that students with positive school linkages have increased academic achievement (Furrer & Skinner, 2003) and

All authors are affiliated with the Center for School-Based Youth Development, University of California Santa Barbara, Gevirtz Graduate School of Education (GGSE), Santa Barbara, CA 93106. Work on this manuscript was supported by a grant from the Don and Marilyn Gevirtz GGSE Funds for Excellence Initiative. Send correspondence to Michael Furlong via e-mail mfurlong@education.ucsb.edu, URL: www.education.ucsb.edu/C4SBYD

improved school safety (Karchur, 2002). One prominent investigation of the protective influence of school bonds is the National Adolescent Longitudinal Study (Resnick et al., 1997)¹, which found that youth reporting positive social “connections” to school have lower rates of negative developmental outcomes. The importance of this association has been reinforced among researchers, educators, and policy makers because it recognized that many forms of community and school violence have been perpetrated by students who had a history of school social alienation and detachment (Sandhu, Arora, & Sandhu, 2001).

In response to this increasing awareness about the importance of school social interpersonal relationships, the topics of school bonding, school connections, or school engagement have drawn increased attention. As is pointed out in other articles in this issue of *The California School Psychologist*, various perspectives, motivations, objectives, and conceptual thinking have emerged. A consensus in the area of school engagement as a topic of investigation and educational practice is yet to emerge. Nonetheless, enough progress has been made to describe these efforts and to offer a multidimensional perspective of how school psychologists can begin to consider the influences of school engagement on the lives of individual students and on the school contexts in which learning occurs. The purpose of this article is to provide an overview of school engagement conceptual thinking and related research. It provides a scaffolding that interlaces school engagement research and educational practices as part of schools’ broader educational mission. It is argued that schools’ efforts to enhance engagement help students to become effectively involved in the schooling process and to develop the skills of lifelong learning. Our objective is to extend the discussion of school engagement as both a process (how it occurs) and an outcome (the state of being personally connected to school). We begin by providing summaries of recent overviews of research that have evolved from the developmental psychopathology literature and others from more educational perspectives. Differences in these perspectives are discussed prior to presenting a proposed integrated framework that links them.

RECENT PERSPECTIVES ON SCHOOL ENGAGEMENT AND BONDING

In their review, Maddox and Prinz (2003) examine the theoretical and measurement roots of school bonding or connections (both terms are used interchangeably). From this perspective, school bonding is a psychological condition that acts as a buffer against life challenges and an antidote to negative developmental outcomes. At its foundation, this line of research is based on a model that views school bonding as a condition that helps youth to conform to the values and norms of society. It is decidedly focused on the prevention of deviant behavior - youth who are actively pursuing the values and tasks of school and are involved in various classroom and extracurricular activities will be less inclined to commit antisocial acts and will have decreased opportunity to do so (Gottfredson & Hirschi, 1990).

The Maddox and Prinz organization of the deviance-based bonding literature considers bonding and its subdimensions as behavioral mediators, not as outcomes of importance in and of themselves - ones that can reciprocally influence the capacity of schools to facilitate linkages among students and staff.

A more educationally focused perspective is found in Finn’s (1989, 1992) examinations of the construct of engagement, which he divides into two components. The first, *participation*, encompasses the day-to-day behaviors associated with a youth doing what is required of the student role in school. Extending this model, Finn also has argued that as a student “engages” in school activities he or she also develops affective involvement, which is a feeling or sense of “belonging” to the school

¹The article by Resnick et al. had 209 PsychInfo cross-citations as of May 23, 2003. Given the wide distribution of this article, it is perhaps not surprising that the term “school connections” has been recently touted.

(Finn & Rock, 1997). In this model, affective attachment to the school is a natural outcome of years of behavioral involvement in school activities.

Two differing types of environments within the school are also identified (Finn & Voelkl, 1993). The *structural* school environment is comprised of school size and ethnic diversity, although other possible influential factors such as socioeconomic status are not discussed. The *regulatory* environment contains the structure and organization of the school, as well as the disciplinary beliefs, codes, and conduct on the campus (Finn & Voelkl, 1993).

The original motivation to understand these ideas grew out of concern for student disengagement or disidentification from school, particularly for youth at risk of academic failure (Finn, 1989, 1992). This perspective holds that student engagement is an outcome itself, is a potential protective factor, and is an antecedent of school success.

An alternative, more developmentally-focused perspective is presented by Fredericks, Blumenfeld, and Paris (under review), who examine the potential of school engagement and provide a summary of the literature. In this review, overall school engagement is perceived as a “meta” construct that contains behavioral, emotional, and cognitive levels of engagement (Fredericks et al., under review). Each of these three is thought to range on a continuum of investment or commitment from the simple to the complex. *Behavioral* engagement encompasses participation, task involvement, and prosocial conduct. *Emotional* engagement includes affect, interest, identification with school, and belonging. *Cognitive* engagement is centered on self-regulation, strategic thinking, and psychological investment. However, the authors acknowledge that each of these levels of engagement have been studied in the past in a one-dimensional fashion, with overlapping and nonsynchronous definitions. This review argues that school engagement should be studied for additive and interaction effects between the context/environment and the individual (Fredericks et al., under review). In addition, the authors describe school, classroom, and peer characteristics as antecedents of school engagement and acknowledge that future research is necessary to examine the complex interplay between the individual and the school environment and its contexts.

THE CONTEXTS OF SCHOOL ENGAGEMENT

Early efforts to extend the concept of school engagement have come from multiple research and practice perspectives. These seminal perspectives have, in parallel, emerged over the years to provide a complementary and increasingly multidimensional understanding of what school engagement is and how it contributes to the understanding of youth development and educational outcomes. These merging psychological, educational, and developmental perspectives have emphasized various dependent variables, focusing on engagement as a clinical-developmental outcome rather than an achievement-educational outcome. However, none of these perspectives fully embeds engagement research within various school contexts or discusses their reciprocal influence on the schooling process. Certainly, graduation, high grades, attendance, and extracurricular involvement are worthy and important outcomes to measure. However, we note that these are also time limited, narrow, and constrained when considered within the broader scope of a youth’s development. In contrast, a psychological perspective considers developmental outcomes that span the school years and beyond, but emphasizes primarily an avoidance of psychopathology.

One way to integrate these various perspectives is to consider the correlates of these narrower educational outcomes. We propose that, while the goal of engagement research and intervention is to promote social and academic competence, it is also an effort to develop within youth the capacity to sustain the positive developmental influences of engagement over the life-span. Thus, the ultimate

goal is not limited to the school years and the bonding or connections in the school setting, but encompasses the development of psychosocial engagement across many life settings and throughout the life span. Figure 1 illustrates the elements of school engagement discussed by researchers and embeds these elements within key school contexts that are the “stages” on which engagement actually occurs.

In the discussion that follows, we provide an overview of each of these contexts and the research currently found important to school engagement. We also initiate a discussion of how researchers and educational practitioners might begin to think about desired outcomes, as this may motivate efforts to enhance school engagement. The current research, thinking, and theory regarding school engagement will be separated and summarized into four main contexts: the individual student, peers, teachers, and the school. While there are certainly other influences that could be discussed, such as parents, family, and community, this article focuses on school contexts that impact engagement.

The Student Context

Much of the school engagement literature focuses on subgroups of students, particularly those who are at risk for adverse outcomes such as alcohol/substance use or abuse, delinquency, recidivism,

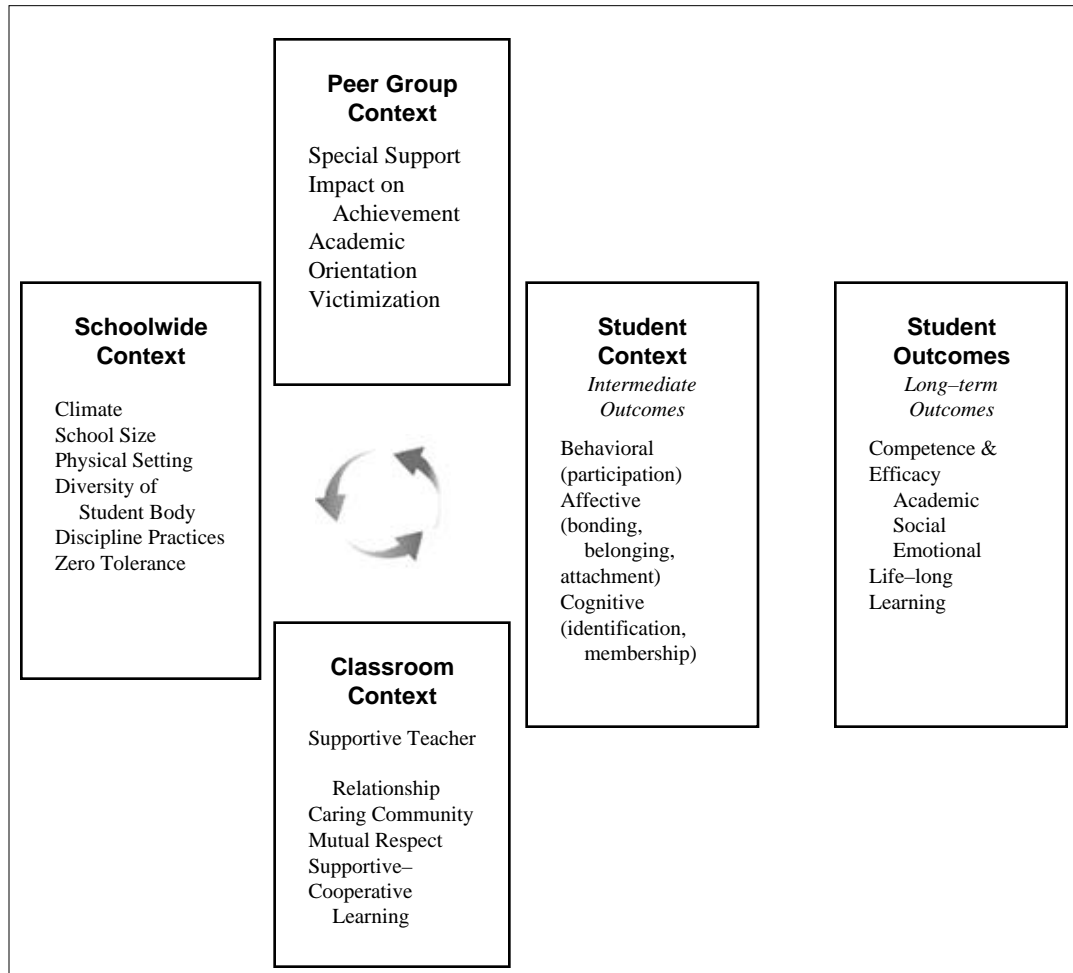


Figure 1. Relationship among school engagement contexts and their relationship to student outcomes.

or high school dropout (Bullis & Yovanoff, 2002; Cadwallader et al., 2002; Cernkovich & Giordano, 1992; Eggert, Thompson, Herting, Nicholas, & Dicker, 1994; Finn & Rock, 1997). The findings from this research are sometimes generalized to all students based on the premise that the absence of poor engagement is considered a protective factor. Following this line of thinking, school engagement is then considered to hold positive influences for all students.

When examining the role of the individual student in school engagement, three separate components emerge, as described by Fredericks et al. (under review). The first component encompasses the observable behavior of the student. The second and third components involve the internal psychological experience of the youth and are separated into two areas, affective and cognitive.

Behavioral component. The behavioral component of school engagement encompasses the student's interactions and responses within the classroom, school, and extracurricular environments. This aspect of school engagement falls on a continuum from more universally expected involvement (e.g., actually showing up to school each day) to more intense involvement (e.g., participation in student body governance). Finn and Rock (1997) describe three levels of observable or behavioral engagement. The first level is reflected in the student's conformity to classroom and school rules, being prepared, and paying attention to the teacher. The second level includes the behaviors from the first level and also includes student initiative, enthusiasm, extra time on schoolwork, and doing more coursework overall. The third level encompasses involvement in school-related extracurricular activities, such as drama, athletics, clubs, and other social activities. In addition, behavioral engagement can also take place in environments other than the school. This may include such activities as off-campus internships in the local community (Conchas, 2001) or in school-generated service learning projects (Lamborn, Brown, Mounts, & Steinberg, 1992).

Affective component. The affective quality of school engagement includes a level of emotional response or involvement toward schooling. This includes feelings of affection, enjoyment, liking, belonging, bonding, and attachment. Research that measures an emotional aspect to school engagement utilizes several different means to describe this element. The largest body of research discusses bonding, attachment, or a sense of belonging to school, peers, and/or teachers (Anderman & Anderman, 1999; Cernkovich & Giordano, 1992; Conchas, 2001; Goodenow, 1993; Hoppe, Wells, Haggerty, Simpson, Gainey, & Catalano, 1998). Generally, attachment is conceptualized as a strong emotional tie, in this case to school (Cole & Cole, 1996; Meece, 2002). When a student is attached to school, teachers, administrators, and other adults are perceived to be available and responsive. This, in turn, increases a youth's feelings that she or he is worthwhile and deserving of care and attention. A similar body of research concentrates on school bonding as measured by "liking" school or classes (Hawkins, Guo, Hill, Battin-Pearson, & Abbott, 2001). Some researchers even evaluate affect by whether the student has "fun" at school or in the classroom (Newman, Wehlage, & Lamborn, 1992).

Cognitive component. The cognitive aspect has at its core some level of "thinking" or evaluation on the part of the student in relation to schooling (Newman et al., 1992; Roeser, Midgley, & Urdan, 1996). This includes developing beliefs, assessments, appraisals, or perceptions of the link between the student and school. These cognitions inform the student in myriad ways, such as in the development of goal orientations in relation to schooling and academic outcomes, as well as in the level of academic self-efficacy (Anderman & Anderman, 1999; Urdan & Maehr, 1995; Wentzel, 1997, 1998). There is also a cognitive aspect to academic self-concept, which is positively related to academic achievement (Guay, Marsh, & Boivin, 2003; Marsh, 1990).

Additionally, the cognitive component encompasses a socio-cognitive aspect of identifying with school, although some researchers have placed identification within an affective realm (Finn & Voelkl, 1993). This identification includes how the student views her or himself within the various schooling

contexts of peers, the classroom, and the school environment. While identification is important during childhood, it may become an even more crucial developmental task during the adolescent years as the student is undergoing transitions from junior high to high school, changes in self-perceptions, peer group identification, etc. (Harter, 1998).

The Peer Context

Literature examining the influence of peers on school engagement can be organized into three broad topics: (a) social-emotional, (b) academic motivation and success, and (c) peer groups and social networks. Overall, a number of the studies have situated peer influence as a mediator variable, indirectly influencing school achievement and facets of school engagement.

Socio-emotional factors. The quality of peer relationships, social competence, and socially responsive behavior has been related to socio-emotional outcomes, which in turn impacts academic success. Peer acceptance appears to indirectly increase the level of a student's interest in school by directly affecting his or her emotional well-being (Wentzel, 1991). Conversely, the level of distress a student experiences is often a negative predictor of the student's interest in school. Distress can include such constructs as anxiety, depression, low self-esteem, and low levels of psychological well-being. However, if a student perceives that she or he has positive peer social support, distress can be attenuated, which in turn may produce increases in both school interest and school engagement (Wentzel, 1998).

Academic motivation and success. Perceived support and perceptions of peer academic values indirectly influence motivation. There is an association between peer acceptance and the pursuit of academic prosocial goals and social competence. Interestingly, pursuing prosocial goals (such as sharing, helping, and cooperating) is a more potent predictor of peer acceptance than is the pursuit of peer-related social goals (such as keeping promises and helping with personal problems within the school context) (Wentzel, 1994). Also, peer academic values better predict academic motivation than school belonging; that is, students who identify with peers who have high academic values are more likely to have high academic motivation themselves, but this does not necessarily manifest itself as high levels of school bonding (Goodenow & Grady, 1993).

Peer groups and social networks. Not only does a student's perception of peer support and socio-emotional characteristics impact interest in school, but peer group membership and networks are also significantly related to school achievement. Having close friendships is identified as a positive predictor of academic grades (Wentzel & Caldwell, 1997). Following this line of research, social competence is related to socially responsible behavior such as adherence to social rules and role expectations (Wentzel, 1991). Based on their level of social competence, students often organize themselves into groups such as: nerds (smart students who receive good grades), normals (bright in relation to social intelligence as well as academics), homeboys (students who generally reject academic values), and wannabes (students who attempt to emulate "homeboys" but are unsuccessful) (Goto, 1997).

To further understand the characteristics of friendships that contribute to school achievement, sociometric scales are used to separate students into groups considered to be: popular (those students liked by most peers and teachers), neglected (those students often ignored by peers and teachers), rejected (those students actively disliked by most peers), and controversial (those students liked and disliked by peers). Neglected children report higher levels of school motivation, are perceived by teachers to be more independent, less impulsive, and demonstrate more appropriate classroom behavior. Although neglected students often achieve at higher academic levels than many students, their peers do not nominate them as "good students" - thus, their academic achievement is not necessarily

an indicator of their school bonding. Rejected students are preferred less by teachers and are perceived by classmates as poor students (Wentzel, 1994). When rejected students are separated into aggressive and non-aggressive types, the aggressive students are the most rejected by peers. Teachers rate controversial students less favorably. Finally, both teachers and peers like popular students, who are perceived as good students and often have higher academic grades (Wentzel & Asher, 1995). In sum, research has shown that the naturally occurring peer social processes produce subgroups of students who have a range of interpersonal school connections.

Aside from impacting school achievement, stable peer networks are often significant, negative predictors of being victimized or bullied. Supportive social networks may be a protective factor against these kinds of negative peer interactions. Overall, bullying increases when social networks are minimal and of poor quality, and decreases when social networks are better established (Pellegrini & Bartini, 2000). Although peer dynamics influence school bonding and achievement, the structural influences of the classroom itself are an even more critical context, a topic to which we next turn our attention.

The Classroom Context

In this section, we identify classroom characteristics that are associated with school engagement. Concepts such as the classroom as a community, supportive relationships with teachers, mutual respect amongst peers, and an emphasis on a cooperative learning curriculum will be discussed.

Classroom as a community. The notion of a classroom as a community refers to the student's perception that she or he is a member of a positive learning environment. This environment acts as a social context that plays a significant part in determining whether the student's needs (including a sense of belonging) are satisfied (Osterman, 2000). One's membership in a positive learning environment or community is linked to experiencing enjoyment of class, liking for school, and task orientation (Battistich, Solomon, & Delucchi, 1993). But how do educators create a positive learning environment for the benefit of students? Research has shown that multiple factors can increase students' sense of being part of a positive learning community, which may lead to increased school engagement. A supportive student-teacher relationship, the experience of mutual respect within the classroom, and curriculum delivery that incorporates cooperative learning are central to a positive classroom learning environment.

Teacher-student relationship. When students perceive their teachers as supportive of them individually, disruptive behavior decreases (Ryan & Patrick, 2001) and students' perceptions of successful interactions with their teachers increases (Patrick, Hicks, & Ryan, 1997). In addition, when students felt that the teacher directly compared students, they reported less confidence in their ability to relate well to their teacher. In contrast, when students perceived their teachers as being supportive (e.g., If my math teacher gets annoyed with me, I can usually work it out versus I find it hard to get along with my math teacher), they reported an increase in social efficacy not only with their teachers, but with their peers as well (Ryan & Patrick, 2001).

Supportive teacher-student relationships impact more than peer and social efficacy. Students who report positive teacher-student relationships experience positive affect when in school (Roeser et al., 1996). Wentzel (1998) documented that perceived support from teachers was an independent and positive predictor of interest in classes, pursuit of goals, and adherence to classroom rules and norms. Experiencing supportive teachers and accepting the goals and values of school were significantly associated to feelings of belonging (Goodenow, 1993). In conjunction with these findings, the quality of student-teacher relationships was positively associated with student academic motivation and attitudes toward school (Eccles, Wigfield, Midgley, Reuman, MacIver, & Feldlaufer, 1993).

Mutual respect. When teachers promote and encourage students to respect each other in a fashion that brings about affirmation of ideas without insult, mutual respect has been established. The experience of mutual respect can be an important dimension of the social environment in the classroom that predicts changes in academic efficacy and self-regulation of school work (Ryan & Patrick, 2001). When students feel psychologically safe and comfortable with personal expression and the sharing of ideas, the classroom is more likely to have a positive learning environment in which students feel as though they are a welcomed member (Goodenow, 1993).

Cooperative learning. In addition to creating a classroom that encourages mutual respect and comfort for students, curriculum delivery in the form of cooperative learning has been a focus of research regarding positive learning environments and engagement. In the Child Development Project, Watson, Solomon, Battistich, Schaps, and Solomon (1989) define the concept of cooperative learning as, "An approach to academic instruction in which children work together to help one another learn and have opportunities to experience and practice such prosocial values as fairness, helpfulness, responsibility, and considerateness" (p. 61).

A review of literature on cooperative learning has identified a need for schools to de-emphasize current practices of individualization and competition among students (Osterman, 2000). It has been suggested that students who perceive an emphasis on competition and comparative ability in their school are more likely to feel self-conscious in academic situations. That is, the goal of outperforming one's peers is accompanied by anxiety and decreased quality of academic performance (Roeser et al., 1996).

Reducing or eliminating visible competition may also be beneficial to the engagement of students of varying achievement levels, but for differing reasons. It appears that average achieving youth who experience secondary schools as both frustrating academically and unsupportive interpersonally are most likely to disengage (e.g., dropout) from school (Wehlage & Rutter, 1986). Minimizing both competition and privileges for honor roll students, higher achievers, and gifted students could also act to alter the current perceptions of frustration and interpersonal defeat.

Cooperative learning has also been found to positively influence several educational conditions that foster overall student engagement. It has been linked to an increase in motivation, positive classroom behaviors, social networks, and academic improvements. Ryan and Patrick (2001) noted that teachers' encouragement of cooperative learning situations was associated with five indicators of motivation and engagement (academic efficacy, social efficacy with the teacher, social efficacy with peers, self-regulated learning, and decreased disruptive behavior). In one study, for example, referrals for behavioral problems dropped by as much as 71% when teachers encouraged supportive relationships among students through cooperative learning and bonding activities (Johnson, Johnson, Dudley, & Magnuson, 1995). In addition to this dramatic decrease in referrals, students indicated higher levels of comfort and satisfaction with their learning groups. A study by Solomon, Watson, Battistich, Schaps, and Delucchi (1997) found that cooperative interactions are a primary mechanism in providing students with opportunities to both display and observe positive behaviors amongst their peers. In another related investigation, positive social interactions were the focus of a study by Jules (1991) in which the adolescents' choices for classroom working partners were examined. It was found that before the cooperative learning experience, students interacted in dyads, triads, and cliques. At the end of the cooperative learning exercises, cliques were no longer evident, friendship patterns had widened, and same-race choices had declined (Jules, 1991).

Classrooms and the manner in which they function are at the core of student's academic engagement. Schools, of course, consist of individual classrooms, but schools as entities are much more than

the sum of all the classes. Thus, we next examine the influences of the broader school-wide context on student engagement.

The School-wide Context

If students are asked where they go to school, they do not reply with the name of the specific class or peer groups to which they belong. Invariably, they will give the name of their school (or a recognized abbreviation). Thus, in order to accurately assess the concept of school engagement, it is necessary to consider the school-wide context. With respect to engagement, school climate has been singled out as a critical factor affecting students' identification with their school. Leone and Mayer (in press), define school climate as "...the quality of person-to-person relationships, the way in which and degree to which respect and consideration are woven into the daily fabric of school life, and the overall level of structure, meaningful order, and supportiveness of the school" (p. 4). Two distinct elements of school climate with linkages to school engagement have been identified: the *physical environment*, consisting of school size and racial/ethnic population (among other architectural factors), and the *regulatory environment*, which includes school discipline policies (Finn & Voelkl, 1993).

Physical environment. The physical environment of a school is characterized in part by school size, including the number of students, faculty, classrooms, and campus structure. A portion of the research has shown that school size may have little effect on school engagement, and even suggests benefits to larger schools through a greater variety of course offerings, and special education services, among others (Battistich, Solomon, Watson, & Schaps, 1997). However, the bulk of the research concerning physical characteristics has repeatedly found an association between moderate-sized school enrollment and higher levels of school engagement (Bryk & Thum, 1989; Finn & Voelkl, 1993; McNeely, Nonnemaker, & Blum, 2002). Students and teachers in small to moderately-sized schools report experiencing both a greater "sense of community" as well as higher ratings of satisfaction when compared to students in larger schools (Lindsay, 1982; Newmann, Rutter, & Smith, 1989). Smaller school size also is positively associated with attendance, with rates at or above 95% (Lindsay, 1982). McNeely and colleagues' (2002) offered a qualification of these findings drawing from the National Longitudinal Study of Adolescent Health (Add Health Study; Resnick et al., 1997). They found that smaller class sizes are positively associated with higher levels of engagement, but that schools with less than 300 students had a "less than optimal" learning environment (McNeely et al., 2002). Overall, this research suggests that a high school with a student body of 600 to 1,200 students is optimal to support engagement and academic achievement (McNeely et al., 2002).

Racial and ethnic compositions of the school community may also affect engagement. In an ethnically diverse school setting, minority groups may experience "stereotype threat" (situations in which an individual believes that his or her performance will be judged in ways consistent with prevailing stereotypes of their group status - e.g., ethnicity or gender). Minority students may internalize a negative stereotype of poor achievement and respond to this through disidentification and withdrawal from school (Steele & Aronson, 1995). Additionally, minority students may not see themselves reflected in the white students and teachers that make up the majority in a school, thus encouraging disengagement from education. Despite the social psychological aspects of stereotype threat, the findings in regards to racially integrated schools have been mixed. While limited by sample size, studies have found greater reports of engagement among Latino/Hispanic students attending predominately Latino schools. (Goodenow, 1993; McNeely et al., 2002). However, the Add Health Study also found some racially integrated schools that reported similarly high levels or no significant differences in school engagement (Goodenow 1993; McNeely et al., 2002). Thus, definitive conclusions cannot be drawn until this

area is further researched, given that there may be factors outside of the school setting that impact engagement for minority students, such as socioeconomic status, socialization experiences, and historical precedents.

Regulatory environment. A key element of the regulatory environment involves school discipline policies. A highly-structured environment with high expectations for students' behavior is associated with school engagement (i.e., higher attendance rates when the administration is perceived as fair; Bryk & Thum, 1989; Finn & Voelkl, 1993). However, strict and arbitrary discipline procedures, such as zero tolerance policies, negatively impact school engagement and disrupt the learning environment (Bryk & Thum, 1989). Furthermore, there is evidence that rigid disciplinary rules are associated with negative perceptions of the warmth and supportiveness of the schooling environment, in addition to lower academic and extracurricular participation rates (Finn & Voelkl, 1993). Harsh and rigid rules are perceived by students as unfair and convey a message that the school lacks understanding, caring, and nurturing. As a result, these policies have been found to have a negative association with engagement and, in turn, promote negative environments in which there may be a higher tendency to drop out (McNeely et al., 2002; Skiba & Peterson, 1999).

A recent trend in school discipline is the implementation of zero tolerance policies in school districts across the nation, with the objective of providing a safe and secure environment. The zero tolerance policy exemplifies harsh and rigid rules by punishing each offense with a suspension or expulsion regardless of the degree of severity. However, evidence suggests that zero tolerance policies are more harmful than preventative. A 1999 National Center for Educational Statistics study of school violence indicated that schools with zero tolerance policies were no safer or more secure than those without such policies, and many schools were less safe than those without such policies (Morrison, Anthony, Storino, & Dillon, 2001; Skiba & Peterson, 1999). Through the process of excluding students through suspension and expulsion, schools prevent children from learning alternative skills with which to resolve conflict and solve problems. In addition to reporting feelings of dissatisfaction, students who have been suspended continue to require further assistance in solving problems. In a study of suspended students, 25% reported a desire to learn more effective ways to solve problems and resolve conflicts as opposed to suspension (Costenbader & Markson, 1997). Many of these students reported that suspension was of little help to them and they were able to identify alternative interventions to promote future growth. Finally, rigid discipline policies send the message that students are unwanted at school, result in many expulsions, and lead to school dropout.

Overall, the physical and regulatory environments play large roles in the development of a school's climate. Previous research indicates that smaller school size is associated with greater levels of school engagement. However, further research is needed in order to clarify the impact of such controversial aspects of school climate as racial and ethnic compositions and school discipline policies. There is a need to understand better the factors that optimize a school setting's capacity to support student engagement and to consider what impacts or outcomes school engagement activities are meant to realize. We next turn our attention to a consideration of endpoints that school engagement are meant to achieve.

SCHOOL ENGAGEMENT OUTCOMES

The student, peer, classroom, and school-wide settings are the contexts in which the processes of school engagement occur. Ultimately, however, researchers and educational practitioners focus on these contexts because of an interest to better understand how to enhance positive student outcomes. So far, our discussion has supported the positive linkage between student academic achievement and school engagement. This clearly places it within the school's primary educational mission. However,

we also suggest that if interest in school engagement halts at this point, it will have unfulfilled potential. In a broader life-span perspective, a purpose in promoting conditions that support positive school engagement is that it provides an opportunity for students to develop the academic and social efficacy that will carry them through all of their life tasks and challenges. Bandura (1997) defines self-efficacy as a judgment of one's ability to perform a task within a specific domain. The study of self-efficacy in education has brought to light the importance of not only considering the ability level of an individual, but the individual's belief that they will succeed on a task - in the context of this article, the goal is that a student will develop the belief he or she can learn now in school and later as new learning opportunities arise.

Four processes have been identified that assist individuals to develop their self-efficacy for given tasks: (a) *mastery experiences* provide vital information about the available skill set for the task and are informed by success, partial success, or failure; (b) *modeling* gives the opportunity to see and vicariously experience others, particularly peers, successfully perform a skill; (c) *verbal persuasion* can be used to persuade others that they have the necessary skills to perform a task; and (d) *physiological information* encompasses physical and emotional elements such as how a person feels about a task and whether she or he has positive or negative feelings toward it (Bandura, 1997). Working to nurture high levels of student self-efficacy create conditions that facilitate communication and increase the opportunity for skill mastery and modeling influences, thus potentially increasing their school engagement.

CONCLUSION

The school engagement framework presented in this article encompasses contexts, processes, and linkages to both the prevention of negative developmental outcomes and the promotion of positive youth development. Providing youth with opportunities to become involved with school and rewarding their involvement can slowly develop protective school social bonds (Catalano et al., 1996). Such a strategy would help all students, but can be particularly important for those youth who are marginalized from school and need to reaffirm their school interpersonal relationships. Carrying this further, one may postulate that youth who are essentially detached from school are already quite likely beyond the reach of the school acting alone. Such youth are likely to require intensive, cross-agency interventions

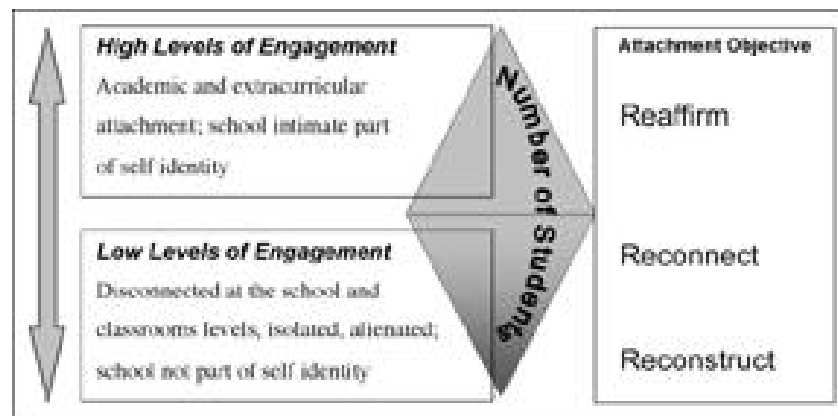


Figure 2. The school engagement continuum.

to reconstruct positive interpersonal relationships in the home, community, and school. Figure 2 provides a conceptual framework to consider school engagement as a continuum from high levels in which a youth is deeply involved in school as the central aspect of her or his life to low levels in which a youth is essentially detached from the schooling process and is likely to perceive him or herself as separate from the mainstream school community - perhaps even experiencing a sense of being a stranger or an unwanted visitor. As suggested by Figure 2, most students are likely to fall somewhere in between, yet still have sufficient engagement to contribute to a positive school climate and to foster their own social and academic competence. Thus, this framework suggests that all students require at least a threshold level of school engagement to foster their development, but that not all students need to be totally immersed in school.

The next logical step is to consolidate and integrate the various terms that are used by researchers interested in the role that social relationships play in the schooling process. We note that the term "school engagement" is the one that has the strongest and deepest links to schools as institutions and to students as effective learners. One definition of engagement includes several elements of key concepts discussed by researchers. Although the depth of involvement may differ, as suggested by Figure 2, engagement implies behavioral interaction, personal attachment, and an agreement to interact over a longer rather than shorter time period. In fact, when it is said that a couple is, for example, "engaged" it is taken to mean that they have made a long-term commitment and that they perceive themselves as partners in a social bond. The depth of engagement in schools varies from student to student, but for all youth the term conveys more than just behavioral compliance and casual relationships. Engagement emphasizes interpersonal bonds that are valued, that have a sense of mutual commitment (investment), and are viewed as an ongoing relationship. None of the other terms that have been used by researchers (e.g., bonding, connections, attachment, participation, involvement) capture the breadth and depth of this phenomenon. Thus, we propose that the term "school engagement" be used as the universal term for what researchers have clearly identified as a multidimensional social relationship construct. In addition to settling on the use of a global term, research and practice will be facilitated by developing a convention for the examination of the subdimensions of school engagement.

The social development researchers (e.g., Hawkins et al., 2000) have suggested that school engagement (what they term "attachment") develops in the individual youth as they are provided the opportunity for behavioral involvement, social skills training, and rewards for using these social skills in interpersonal situations. Extending this model to encompass the various terms that have been used in the school engagement literature, we offer the PACM model. *Participation* (behavioral involvement) contributes to the formation of interpersonal *Attachments* (social bonding), which in turn results in a student developing a sense of personal *Commitment* (valuing of education), and ultimately to incorporating school *Membership* (identification as a school community citizen) as part of his or her self identity [P > A > C > M]. Such a model is relevant to all students and, if used as the basis for educational practice, it has the potential to organize overall school improvement efforts designed to create a better, more effective school.

Other aspects of school engagement will need to be considered. For example, when measured at the individual student level, it may have both state- and trait-like characteristics. Gottfredson and Gottfredson (1999) have developed a scale to assess what they call "Attachment to School." Of interest is that the one-year, test-retest reliability of this measure is approximately .50, which suggests that there is only moderate stability in self-reported student attachment. Students' school engagement may have long-term general stability, but in the short-term it may be reactive to changes in teachers, changes in school administration, differences in schools at points of transition, or reactions to change in peer

influences. For example, Maddox and Prinz (2003) suggest that middle school may be a time of unique change and flux. How students' sense of engagement fluctuates over time and what school factors influence any such changes are not well understood.

Maddox and Prinz (2003) also suggest that universal, school-wide prevention programs may be one strategy to increase the bonding of students to school. This idea is steeped in a public health model that views such programs as inoculating students against the potential consequences of poor school bonding. Regardless of theoretical rationale, there is clear value in such prevention efforts. However, public health models have at their roots the prevention of disease or negative outcomes and the student is the target of these public health interventions. We suggest that the utility of school engagement as a research construct that meaningfully influences students' schooling experiences will be more fully realized if it can be integrated within the broader school mission and goals. Schools as institutions will have greater motivation and support for implementing policies and practices that foster school engagement if they perceive the linkages between student development and the enhancement of the total school environment. School engagement efforts not only have the potential to deflect youth from pathways leading to antisocial behavior, but to improve schools and thereby enhance the development of all youth.

REFERENCES

- Abbott, R. D., O'Donnell, J., Hawkins, J. D., Hill, K. G., Kosterman, R., & Catalano, R. F. (1998). Changing teaching practices to promote achievement and bonding to school. *American Journal of Orthopsychiatry*, *68*, 542–552.
- Anderman, L. H., & Anderman, E. M. (1999). Social predictors of changes in students' achievement goal orientations. *Contemporary Educational Psychology*, *25*, 21–37.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*, 191–215.
- Battistich, V., Solomon, D., & Delucchi, K. (1993). Interaction processes and student outcomes in cooperative learning groups. *Elementary School Journal*, *94*, 19–32.
- Battistich, V., Solomon, D., Watson, M., & Schaps, E. (1997). Caring school communities. *Educational Psychologist*, *32*, 137–151.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental motivation. *Psychological Bulletin*, *117*, 497–529.
- Bryk, A. S., & Thum, Y. M. (1989). The effects of high school organization on dropping out: An exploratory investigation. *American Educational Research Journal*, *26*, 353–383.
- Bullis, M., & Yovanoff, P. (2002). Those who do not return: Correlates of the work and school engagement of formerly incarcerated youth who remaining the community. *Journal of Emotional and Behavioral Disorders*, *10*, 66–78.
- Cadwallader, T. W., Farmer, T. W., Cairns, B. D., Leung, M., Clemmer, J. T., Gut, D. M., & Reese, L. E. (2002). The social relations of rural African American early adolescents and proximal impact of the school engagement project. *Journal of School Psychology*, *40*, 239–258.
- Catalano, R. F., Kosterman, R., Hawkins, J. D., Newcomb, M. D., & Abbott, R. D. (1996). Modeling the etiology of adolescent substance use: A test of the social development model. *Journal of Drug Issues*, *26*, 429–455.
- Cernkovich, S. A., & Giordano, P. C. (1992). School bonding, race, and delinquency. *Criminology*, *30*, 261–291.
- Cole, M., & Cole, S.R. (1996). *The development of children* (3rd ed.). New York: W.H. Freeman and Company.
- Conchas, G. Q. (2001). Structuring failure and success: Understanding the variability in Latino school engagement. *Harvard Educational Review*, *71*, 475–504.
- Costenbader, V., & Markson, S. (1997). School suspension: A study with secondary school students. *Journal of School Psychology*, *36*, 50–82.
- Eccles, J. S., Wigfield, A., Midgley, C., Reuman, D., Mac Iver, D., & Feldlaufer, H. (1993). Negative effects of traditional middle schools on students' motivation. *The Elementary School Journal*, *93*, 553–574.
- Eggert, L. L., Thompson, E. A., Herting, J. R., Nicholas, L. J., & Dicker, B. G. (1994). Preventing adolescent drug abuse and high school dropout through an intensive school-based social network development program. *American Journal of Health Promotion*, *8*, 202–215.

- Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research*, 59, 117–142.
- Finn, J. D. (1993). *School engagement and students at risk*. Washington, DC: National Center for Educational Statistics.
- Finn, J. D., & Rock, D. A. (1997). Academic success among students at risk for school failure. *Journal of Applied Psychology*, 82, 221–235.
- Finn, J. D., & Voelkl, K. E. (1993). School characteristics related to student engagement. *The Journal of Negro Education*, 62, 249–268.
- Fredericks, J. A., Blumenfeld, P., & Paris, A. H. (under review). School engagement: Potential of the concept, state of the evidence.
- Furrer, C., & Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology*, 95, 148–162.
- Goodenow, C. (1993). Classroom belonging among early adolescent students: Relationships to motivation and achievement. *Journal of Early Adolescence*, 13, 21–43.
- Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *Journal of Experimental Education*, 62, 60–71.
- Goto, S. T. (1997). Nerds, normal people, and homeboys: Accommodation and resistance among Chinese America students. *Anthropology & Education Quarterly*, 28, 70–84.
- Gottfredson, G. D., & Gottfredson, D. C. (1999). *Technical manual for research editions of What About You (WAY)*. Ellicott City, MD: Gottfredson Associates.
- Gottfredson, M., & Hirschi, T. (1990). *A general theory of crime*. Stanford, CA: Stanford University Press.
- Guay, F., Marsh, H. W., & Boivin, M. (2003). Academic self-concept and academic achievement: developmental perspectives on their causal ordering. *Journal of Educational Psychology*, 95, 124–137.
- Guo, J., Hawkins, J. D., Hill, K. G., & Abbott, R. D. (2001). Childhood and adolescent predictors of alcohol abuse and dependence in young adulthood. *Journal of Studies on Alcohol*, 62, 754–762.
- Harter, S. (1998). The development of self-representations. In W. Damon (Ed.), *Handbook of child psychology* (5th ed., Vol. 3). New York: Wiley.
- Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin*, 112, 64–105.
- Hawkins, J. D., Guo, J., Hill, K. G., Battin-Pearson, S., & Abbott, R. D. (2001). Long-term effects of the Seattle Social Development Intervention on school bonding trajectories. *Applied Developmental Science*, 5, 225–236.
- Hoppe, M. J., Wells, E. A., Haggerty, K. P., Simpson, E. E., Gaine, R. R., & Catalano, R. (1998). Bonding in a high-risk and a general sample of children: Comparison of measures of attachment and their relationship to smoking and drinking. *Journal of Youth and Adolescence*, 27, 59–81.
- Johnson, D. W., Johnson, R. T., Dudley, B., & Magnuson, D. (1995). Training elementary school students to manage conflict. *Journal of Social Psychology*, 135, 673–686.
- Jules, V. (1991). Interaction dynamics of cooperative learning groups in Trinidad's secondary schools. *Adolescence*, 26, 931–949.
- Karchur, M. J. (2002). The cycle of violence and disconnection among rural middle school students: Teacher disconnection as a consequence of violence. *Journal of School Violence*, 1, 35–51.
- Lamborn, S. D., Brown, B. B., Mounts, N. S., & Steinberg, L. (1992). Putting school in perspective: The influence of family, peers, extracurricular participation, and part-time work on academic engagement. In F. M. Newmann (Ed.), *Student engagement and achievement in American secondary schools* (pp. 153–181). New York: Teachers College Press.
- Leone, P. E., & Mayer, M. J. (in press). Safety, diversity, and disability: Goodness of fit and the complexities of the school environment. In M. J. Furlong, M. P. Bates, D. C. Smith, & P. E. Kingery (Eds.), *Appraisal and prediction of school violence: Methods, issues, and contexts*. Hauppauge, NY: Nova Science Publishers.
- Lindsay, P. (1982). The effect of high school size on student participation, satisfaction, and attendance. *Educational Evaluation and Policy Analysis*, 4, 57–65.
- Maddox, S. J., & Prinz, R. J. (2003). School bonding in children and adolescents: Conceptualization, assessment, and associated variables. *Clinical Child & Family Psychology Review*, 6, 31–49.
- Marsh, H. (1990). Causal ordering of academic self-concept and academic achievement: A multiwave, longitudinal panel analysis. *Journal of Educational Psychology*, 82, 646–656.
- McNeely, C. A., Nonnemaker, J. M., & Blum, R. W. (2002). Promoting school connectedness: Evidence from the National Longitudinal Study of Adolescent Health. *Journal of School Health*, 72, 138–160.
- Meece, J. L. (2002). *Child & adolescent development for educators* (2nd ed.). Boston: McGraw-Hill.
- Morrison, G. M., Anthony, S. A., Storison, M., & Dillon, C. (2001). An examination of the disciplinary histories of the individual and educational characteristics of students who participate in an in-school suspension program. *Education and Treatment of Children*, 24, 276–293.

- Morrison, G. M., Robertson, L., Laurie, B., & Kelly, J. (2002). Protective factors related to antisocial behavior trajectories. *Journal of Clinical Psychology* (Special Issue: A second generation of resilience research), *58*, 277–290.
- Mylant, M., Ide, B., Cuevas, E., & Meehan, M. (2002). Adolescent children of alcoholics: Vulnerable or resilient? *Journal of the American Psychiatric Nurses Association*, *8*, 57–64.
- Newmann, F. M., Wehlage, C. G., & Lamborn, S. D. (1992). The significance and sources of student engagement. In F. M. Newmann (Ed.), *Student engagement and achievement in American secondary schools* (pp. 11–39). New York: Teachers College Press.
- Osterman, K. F. (2000). Students' need for belonging in the school community. *Review of Educational Research*, *70*, 323–367.
- Pellegrini, A. D., & Bartini, M. (2000). A longitudinal study of bullying, victimization, and peer affiliation during the transition from primary school to middle school. *American Educational Research Journal*, *37*, 699–725.
- Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., Tabor, J., Beuhring, T., Sieving, R. E., Shew, M., Ireland, M., Bearinger, L. H., & Udry, J. R. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. *JAMA: Journal of the American Medical Association*, *278*, 823–832.
- Roeser, R. W., Midgley, C., & Urdan, T. C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of Educational Psychology*, *88*, 408–422.
- Ryan, A. M., & Patrick, H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal*, *38*, 437–460.
- Sandhu, D. S., Arora, M., & Sandhu, V. S. (2001). School violence: Risk factors, psychological correlates, prevention and intervention strategies. In D. S. Sandhu (Ed.), *Faces of violence: Psychological correlates, concepts, and intervention strategies* (pp. 45–71). Huntington, NY: Nova Science Publishers.
- Sinclair, M. F., Christenson, S. L., Elevo, D. L., & Hurley, C. M. (1998). Dropout prevention for youth with disabilities: Efficacy of a sustained school engagement procedure. *Exceptional Children*, *65*, 7–21.
- Skiba, R., & Peterson, R. (1999). The dark side of zero tolerance: Can punishment lead to safe schools? *Phi Delta Kappan*, *January*, 372–76, 381–82.
- Solomon, D., Watson, M., Battistich, V., Schaps, E., & Delucchi, K. (1997). Creating classrooms that students that student experience as communities. *American Journal of Community Psychology*, *24*, 719–748.
- Steele, C. M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology*, *69*, 797–811.
- Urdan, T. C., & Maehr, M. L. (1995). Beyond a two-goal theory of motivation and achievement: A case for social goals. *Contemporary Educational Psychology*, *22*, 165–199.
- Walker, H. M., Stieber, S., Ramsey, E., & O'Neill, R. (1993). Fifth-grade school adjustment and later arrest rate: A longitudinal study of middle school antisocial boys. *Journal of Child & Family Studies*, *2*, 295–315.
- Watson, M., Solomon, D., Battistich, V., Schaps, E., & Soloman, J. (1989). The Child Development Project: Combining traditional and developmental approaches to values education. In L. Nucci (Ed.), *Moral development and character education* (pp. 51–92). Berkeley, CA: McCutchan.
- Wehlage, G. G., & Rutter, R. A. (1986). Dropping out: How much do schools contribute to the problem? *Teachers College Record*, *87*, 374–392.
- Wentzel, K. R. (1991). Relations between social competence and academic achievement in early adolescence. *Child Development*, *62*, 1066–1078.
- Wentzel, K. R. (1994). Relations of social goal pursuit to social acceptance, classroom behavior, and perceived social support. *Journal of Educational Psychology*, *86*, 173–182.
- Wentzel, K. R. (1997). Student motivation in middle school: The role of perceived pedagogical caring. *Journal of Educational Psychology*, *89*, 411–419.
- Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology*, *90*, 202–209.
- Wentzel, K. R., & Asher, S. R. (1995). The academic lives of neglected, rejected, popular, and controversial children. *Child Development*, *66*, 754–763.
- Wentzel, K. R., & Caldwell, K. (1997). Friendships, peer acceptance, and group membership: Relations to academic achievement in middle school. *Child Development*, *68*, 1198–1209.

Digit Naming Speed Performance Among Children With Attention-Deficit/Hyperactivity Disorder

Stephen E. Brock and Catherine Christo
California State University, Sacramento

This study compared the *Digit Naming Speed Test* (DNS) performance of 20 children with Attention-Deficit/Hyperactivity Disorder (ADHD) to 20 carefully matched peers without ADHD. Matching variables included age, grade, gender, and word reading ability. Sample construction included procedures that allowed for the identification and removal from the sample those children with reading disabilities (RD) and those children with ADHD who had predominantly hyperactive symptoms. Despite similar word identification and word attack test scores, contrary to previous research, and contrary to the researchers' expectations, children with ADHD were significantly slower at naming numbers than were children without ADHD. Explanations for these findings, theoretical and practical implications, and limitations and future study are discussed.

Keywords: ADHD, Digit naming

In addition to having poor phonological awareness, previous research has suggested that the speed with which children are able to continuously name familiar visual stimuli, such as digits, strongly correlates with reading disabilities (Davis & Spring, 1990; Lovett, Steinback & Fritjers, 2000; Spring & Capps, 1974; Spring & Davis, 1988; Spring & Farmer, 1975; Wolf, 1991, Wolf, Bowers & Biddle, 2000). Prior study has suggested that when compared to fluent readers, poor readers are slower at rapidly naming letters, digits, colors, and familiar objects (Ackerman, Dykman, & Gardner, 1990; Spring & Capps, 1974; Spring & Davis, 1988; Spring & Farmer, 1975; Torgesen & Houck, 1980; Wolf, 1986; Wolf, 1991; Wolf & Obergon, 1992). Not surprisingly, given these findings, during the past 15 years there has been an increasing recognition of naming speed as a core deficit of reading disabilities (Wolf et al., 2000). For the purposes of the current study, the commonly held definition of reading disability as a word specific deficit, which generally manifests itself in difficulties with single word decoding and the development of accurate and speedy word recognition was used. Children with reading disability are also said to display unexpectedly poor performance in reading that cannot be explained by generalized developmental delay or sensory impairment (International Dyslexia Association, 1994).

ADHD, Reading Disabilities, and Naming Speed

The relationship between naming speed and reading disabilities has also been suggested to exist among children with Attention-deficit/Hyperactivity Disorder (ADHD). Felton, Wood, Brown, Campbell, and Harter (1987) report naming speed deficits to be specific to children with ADHD and

Correspondence concerning this article should be addressed to Stephen E. Brock; California State University, Sacramento; Department of Special Education, Rehabilitation, and School Psychology; 6000 J Street; Sacramento, CA; 95819-6079 or via Internet to brock@csus.edu. The authors are indebted to Jonathan Sandoval, Carl Spring, and Penelope Knapp for their assistance in the preparation of this paper. This research was a part of a larger study designed to assess the reading comprehension abilities of children with ADHD (Brock & Knapp, 1996).

reading disabilities (RD). Among children with ADHD who do not have RD, naming speed deficits were not observed. Of particular interest to the current research were the digit naming performance results. On this task participants were required to name digits presented on a chart as rapidly as possible. The chart contained five rows of 10 digits. Results suggested that children with ADHD symptoms who did not have RD, did not have significantly slower digit naming speed when compared to children without these symptoms. While the mean time for the ADHD group was 27.31 seconds ($SD = 9.35$) the mean time for children without ADHD symptoms was 24.20 seconds ($SD = 5.01$). The 3.1 second difference between these two means was not statistically significant.

In a similar study, Ackerman and Dykman (1993) compared the naming speed abilities of three groups of children: children with "dyslexia" (i.e., participants with a 17 point discrepancy between IQ and Wide Range Assessment of Reading score), slow learner/borderline (i.e., poor readers who had less than a 17 point difference between IQ and reading), and ADHD only (i.e., average or better readers with average IQ). Results indicated that the ADHD group was significantly faster than the dyslexia group on serial naming of digits, but did not differ from the control ("slow learner") group.

Semrud-Clikeman, Guy, Griffen, and Hynd (2000) also studied naming speed differences among children with ADHD, children with RD and no ADHD, and normal controls. In this study, naming speed for four different types of stimuli (i.e., colors, numbers, letters, and objects) was compared across these groups. Semrud-Clikeman et al. found that children with ADHD only differed from a control group on naming of colors and objects but did not differ from the control group in naming of letters and numbers. Children with RD differed from the control group on all naming speed measures and were slower than the ADHD group on naming of letters and numbers. The ADHD group did not differ from the RD group on speed of naming colors and objects. The authors argue that the deficit in color and object naming speed for children with ADHD, and without RD, may be due to attentional issues caused by the nature of the task rather than as a result of a naming deficit per se. That is, color naming is an easy task that may hold little attraction for children with ADHD. Further, these children did not differ from controls on a naming task using alternate stimuli of numbers and letters. The authors conclude that the slower naming speed for colors may, therefore, reflect a performance deficit rather than a processing deficit.

Finally, Tannock, Martinussen, and Fritjers (2000) found children with ADHD to differ significantly from a group of children without ADHD or RD in speed of naming colors. Though they also differed from this group on naming speed for letters, the difference was eliminated when general language ability and phonological processing were controlled. The difference between children with ADHD and non-impaired children on speed of naming colors remained when general language ability was controlled. Tannock et al. (2000) also examined the naming speed of children with ADHD and RD. These children differed from the ADHD only group and a control group on all naming speed measures. These findings led the authors to speculate that the naming speed deficits of the ADHD only group represented difficulties with "effortful, semantic processing" (p. 245) whereas the deficits in letter naming, as well as color naming, of the ADHD with RD group reflected more global difficulties in processing of all types of verbal information.

The Current Research

The current research was initiated from the perspective that naming speed deficits are linked to reading disabilities. From prior research, it was assumed that these deficits are specific to children with ADHD and RD, and are not observed among children with ADHD who do not have RD. In addition, it was believed that ADHD and RD are distinct clinical entities. While ADHD and RD frequently co-exist, it was hypothesized that among children with ADHD who do not have RD, naming speed defi-

cits would not be observed. To test this assumption the current research compared a group of intermediate grade (grades 4, 5, and 6) children previously diagnosed with ADHD to a group of carefully matched age and grade peers without this disorder. To focus specifically on the effect of ADHD on digit naming speed, other selected variables correlated with this skill were controlled. Specifically, children were matched on a measure of word identification ability. An inclusion criteria for all children was word identification test scores in the Average range or higher. Once groups were identified, all children were administered a battery of tests. Along with measuring digit naming speed, a measure of word attack skill was administered. In addition, procedures were used to screen out children who had RD and who had predominately hyperactive/impulsive ADHD symptoms.

METHOD

Participants

Initial ADHD group selection procedures. ADHD group participants were drawn from an urban university child psychiatry clinic and a suburban regionally located school district. From review of available psychiatric, psychological, and educational records, 43 children were identified as possibly being appropriate for inclusion in the ADHD sample.

Participant selection was based first upon documentation of an ADHD diagnosis. Although these diagnoses were made independent of the current research, attempts were made to confirm the clinical severity of this sample's ADHD symptomology by collecting pre-existing behavior rating scale data (when available).

Additional participant selection criteria included an intermediate grade educational placement and evidence of at least average word identification reading ability. All children who had been placed in a special education program due to reading difficulties were excluded. Finally, to address research suggesting attentional and hyperactive/impulsive symptoms load on separate factors (Healey et al., 1993; Lahey et al., 1988), and the concern that these factors may represent separate disorders (Barkley, 1993), attempts were made to exclude from the study's sample children who had primarily hyperactive/impulsive symptoms. Specifically, when *Diagnostic and Statistical Manual of Mental Disorder (DSM-IV)* (American Psychiatric Association, 1994) criteria were used to make the ADHD diagnosis (as was the case for all participants obtained from the child psychiatric clinic), children who were Predominately Hyperactive/Impulsive Type were excluded. In those instances where *DSM-IV* (American Psychiatric Association, 1994) criteria had not been used psychiatric, psychological, and educational record review confirmed the presence of symptoms of inattention.

The parents of 27 of the 43 selected children responded positively to the letter mailed to them soliciting participation. In an attempt to eliminate the potential confounding influence of the medications prescribed to control ADHD symptoms, it was requested that all ADHD group participants discontinue any medication they were taking to help manage their ADHD symptoms during the 24 hours prior to testing.

Secondary ADHD group selection procedures. To ensure adequate word reading abilities and to help match ADHD and comparison group participants, the first measure administered was the *Woodcock-Johnson Tests of Achievement* (WJ; Woodcock & Mather, 1989) Letter-Word Identification subtest. Using age norms, scores on this subtest had to be in the Average range or higher (standard scores of 90 and above). Using these criteria three children with ADHD were excluded. An additional three children whose subtest scores could not be matched with a comparison participant were also excluded.

To verify the absence of RD (as it was defined in prior research), the *Peabody Picture Vocabulary Test-Revised* (PPVT-R; Dunn & Dunn, 1981) was administered. This test was used in combination

with Letter-Word Identification subtest scores in a fashion similar to that employed by Halperin, Gittelman, Klein, and Rudel (1984). All but one participant had *PPVT* standard scores no more than 14 points higher than their Letter-Word Identification standard scores. One child in the sample had a *PPVT* standard score 16 points higher than his Letter-Word Identification standard score and was thus removed from the sample.

Of the remaining 20 children, 13 were obtained from the child psychiatric clinic. The remaining ADHD group children were from the regional school district and were diagnosed by pediatricians in private practice ($n = 4$), psychiatrist in private practice ($n = 1$), or a community mental health agency ($n = 2$).

Rating scale results were available for most of the ADHD group's 20 participants. T-scores obtained from parent ratings on both the *Child Behavior Checklist* (Achenbach, 1991) Attention Problems scale ($n = 17$, $M = 73.41$, $SD = 9.98$) and the *Conners' Rating Scale* (Conners, 1989) Hyperactivity Index ($n = 18$, $M = 77.44$, $SD = 13.73$) fell within the clinically significant range of scores (T-scores above 70 are considered significant). Only 14 of the 20 participants with ADHD (61%) complied with the request to discontinue ADHD medications at the time of testing.

To document the degree to which participants demonstrated predominately inattentive symptoms, *DSM-IV* ADHD symptom checklists (developed by the first author) were examined. This Checklist quantified the 18 *DSM-IV* symptoms of ADHD on a 0 to 3 scale, with higher scores reflecting greater symptom severity. Checklists were available for 16 of the 20 ADHD group participants and suggested that the attempt to exclude children with predominately hyperactive/impulsive symptoms was successful. Children in this sample had more inattentive ($M = 22.22$, $SD = 4.14$) than hyperactive/impulsive ($M = 15.53$, $SD = 7.21$) symptoms. The difference between these means was significant ($t = 3.11$, $df = 15$, $p = .005$).

Finally, the *WJ* Word Attack subtest (Woodcock & Mather, 1989) was also administered. The Word Attack subtest measures the ability to read nonsense words. It was administered to ensure that participants had adequate decoding abilities and as a reflection of adequate phonological awareness.

Comparison group selection procedures. Twelve intermediate grade teachers were asked to identify general education students whom they considered to be average and above oral readers, with "normal" attention abilities. From teacher nominations, 156 children were identified as potential participants. The parents of 52 of the 156 selected children (33%) agreed to have their children participate in the study.

ADHD-Comparison group matching. All 52 Comparison children were administered the Letter-Word Identification subtest. They were then matched with an ADHD group peer. Participant matches for grade and gender are self-explanatory. There was one instance where a participant with ADHD had a higher grade placement than his Comparison group peer. On the Letter-Word Identification subtest, Comparison group participants and an ADHD group peer were considered to match if their scores were no more than +/- seven standard score points (less than one-half standard deviation) apart. Matches for age were made when a pair of participants had birth dates within six months. Using these criteria, 20 of the 52 children (39%) were matched with an ADHD group peer and were administered the remaining tests of the research protocol.

Variables correlated with digit naming speed were evaluated for the Comparison group as they had been for the ADHD group. This evaluation included administration of the *PPVT* (Form M; Dunn & Dunn, 1981), and the *WJ* (Woodcock & Mather, 1989) Word Attack subtest.

Participant selection summary. Review of psychiatric, psychological, and educational records, and teacher nomination identified 199 children as potential participants. Of this number, 79 (40%) responded positively to invitations to participate in the study. From this participant pool 20 matched

pairs were identified. Twenty of the ADHD group participants and 18 of the Comparison group participants were White. Within the ADHD group one child was Hispanic. Within the Comparison group one child was Asian and one child was Hispanic. There were 3 pairs of female participants, and 17 pairs of male participants. Table 1 presents a summary of the variables upon which the participants were matched. Separate two-tailed *t*-tests for related measures revealed no significant differences between group means.

Measure

To assess digit naming speed the *Digit Naming Speed Test* (DNS) was administered. Developed by Spring and Capps (1974), this test required children to read the names of 50 randomly ordered digits (excluding the two-syllable digits 0 and 7) as quickly and accurately as possible. Using different 50 digit sequences, participants read these numbers twice. Digits were typed in a single row in the center of cards measuring 4 X 8.5 inches. The single row of digits was divided into 10 five-digit groups separated by a single space. Separate cards were used for each trial. Specific directions given to each participant are available from the first author.

Table 1
Summary of the Variables Upon Which ADHD and Comparison Group Participants Were Matched

Variable	ADHD Group ^a		Comparison Group ^a	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Grade-level	4.76	0.625	4.67	0.577
Age	127.05	8.740	127.70	9.480
Word Reading	107.20	10.560	108.45	8.780

Note. ^an = 20. Grade-level = participant's grade level. Age = participant's age in months. Word Reading = WJ Letter-Word Identification subtest age norm standard scores.

RESULTS AND DISCUSSION

Screening test and *DNS* findings for the 20 participants are shown in Table 2. Separate *t*-tests for related measures were conducted to assess if the differences between the mean test scores were significant. Results suggest that both ADHD and Comparison groups had similar word identification skill, word attack ability, and receptive vocabulary. Also, the discrepancies between word identification and receptive vocabulary were not significant. The only test on which the mean scores were statistically different was *DNS* ($t = 3.00, df = 19, p = .0073$). This finding suggests that ADHD group children were significantly slower than their Comparison group peers at rapidly recognizing and naming a series of numbers.

Due to concerns regarding the normality of the distribution of ADHD and Comparison group difference scores a nonparametric sign test was also used (Norusis, 1987; Siegle, 1956). This statistic was in agreement with *t*-test results. Data from 17 of the 20 pairs found the ADHD group member's *DNS* performance to be slower than that of the Comparison group member ($p = .001$).

Previous research has suggested that slower digit naming speed correlates with RD (Davis & Spring, 1990; Spring & Capps, 1974; Spring & Davis, 1988; Spring & Farmer, 1975; Wolf et al.,

Table 2
Screening and Digit Naming Speed Test Results

Measure	ADHD Group ^a		Comparison Group ^a	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
PPVT	107.55	13.50	107.15	11.88
Discrepancy	-0.35	11.15	1.30	12.74
Word Attack	104.60	12.13	108.20	12.94
<i>DNS</i>	27.58"	9.39"	22.54"	2.87"

Note. ^an = 20. PPVT = mean PPVT standard score. Discrepancy = mean difference score obtained when PPVT standard scores were subtracted from WJ Letter-Word Identification age norm standard scores. Word Attack = mean WJ Word Attack subtest age norm standard score. *DNS* = mean *DNS* time.

2000). Further it differentiates children with ADHD who have RD from those without RD (Felton et al., 1987; Tannock et al., 2000). Prior research has not documented digit naming speed differences between children with ADHD and children without ADHD or RD (Ackerman & Dykman, 1993; Semrud-Clikeman et al., 2000). Given these previous findings, the fact that none of the study's children had RD, and that both groups had similar word identification and attack skills, it was anticipated that participants would have similar *DNS* performance. That this expectation was not fulfilled suggests that the differences found are a reflection of differences unique to the child with ADHD. Before exploring these possible differences, however, this discussion will first review some methodological differences between current and previous research.

Methodological Differences Between Current and Previous Research

The first methodological difference is that, unlike the current study, none of the previous studies (Ackerman & Dykman, 1993; Felton et al., 1987; Semrud-Clikeman et al., 2000; Tannock et al., 2000) employed a matched pair design. In the Felton et al. study sample there were differing numbers of children in the ADHD and comparison groups. In their sample of children without RD there were 40 children without ADHD symptoms and only 13 children with ADHD symptoms. The relatively small ADHD group sample size increases the possibility that this group was not representative of children with ADHD. This may have increased the probability of sampling error. In addition, it is noteworthy that unlike the current study, Felton et al. (1987) did not match participants according to age. The children in the two Felton et al. groups ranged in age from 8 to 12 years and there was no data presented regarding the average age of the participant groups. Analysis of the current data finds that older age correlates with faster *DNS* performance ($r = -.412, p < .10$). Meyer, Wood, Hart, and Felton (1998a) documented steady improvements in naming speed over time. Thus, it is possible that the Felton et al. ADHD group was simply older and thus just as efficient at digit naming as their younger comparison group counterparts. The mean age of the ADHD participants in the Semrud-Clikeman et al. (2000) study was 11.5 whereas in the present study the mean age was 10.5. Thus, it is also possible that relative differences in naming speed between children with and without ADHD may decrease with age due to a ceiling effect for the measure.

Sample composition within prior studies also warrants consideration. In the Ackerman and Dykman (1993) study, the mean verbal IQ of the control group was significantly below that of the children with ADHD (Mean ADHD group Verbal IQ, 106; control group, Verbal IQ, 90.3). Therefore the lack of a difference between the digit naming speed scores for the ADHD group in comparison to the controls may have been a result of lower general cognitive ability. In further considering the nature of the different samples, it is possible that the Felton et al. (1987) sample was not representative of the population of children with ADHD. This sample was skewed toward the upper end of the reading ability curve. In fact, Felton et al. state: "To be sure, our design does not necessarily represent the entire population of children in any given school system" (p. 178), and they conclude that their non-RD sample of children may "over represent children with above average reading quotients" (p. 178). While the Felton et al. modal reading quotient was in the Superior range, the children in the current research had much more typical reading test scores. On measures of single word reading and phonetic skill the children in the current study's ADHD and Comparison groups obtained mean test scores falling within the Average range (Tables 1 and 2). Thus, it is possible that differences in digit naming speed are not seen among children who have significantly above average reading skill. This suggestion is supported by Meyer, Wood, Hart and Felton (1998b), who found that differences in naming speed are not predictive of reading level among average or better readers.

In addition, the studies may have included different subtypes of children with ADHD. The current research attempted to include children with symptoms of inattention, and exclude those who were primarily hyperactive-impulsive. On the other hand, neither Ackerman and Dykman (1993), Felton et al. (1987), Semrud-Clikeman et al. (2000), or Tannock et al. (2000) made any such attempt. In the Ackerman and Dykman (1993) study there were no differences in ratings of inattention and hyperactivity between their groups. In the other studies there is no mention as to subtype. Thus, it is possible that the conflicting results are a consequence of the participation of children with different types of ADHD. In other words, the subtype of children with ADHD that comprised the studies mentioned (which may have included children with primarily hyperactive symptoms) might be more efficient at rapid digit naming, than the subtype that comprised the current study (which attempted to include children with primarily inattentive symptoms). The relevance of this issue is emphasized by the research of Hynd et al. (1991). This research found children with ADHD and without hyperactivity were slower than those with hyperactivity on tasks requiring them to name colors, numbers and letters as fast as possible. Further support for the importance of this methodological issue from the current research data can be found in the correlations of the *DSM-IV* (American Psychiatric Association, 1994) ADHD symptom checklists with *DNS*. Specifically, parent ($r = .466, p < .05$) and teacher ($r = .677, p < .01$) ratings of inattention were more strongly related to slower *DNS*, than were parent ($r = .239, p > .10$) and teacher ($r = .353, p > .10$) ratings of hyperactivity/impulsivity (Brock & Knapp, 1996).

The final methodological difference has to do with the procedures used to identify ADHD group participants. In the current research, all ADHD group participants were independently identified as having this disorder before inclusion in the study's sample, with a majority having been diagnosed at a university child psychiatric clinic. This was not the case in the Felton et al. (1987) study. In this research the ADHD group was identified after subjects had been selected. In the Semrud-Clikeman et al. (2000) study the participants were selected from a pool of students recruited from university based clinics. Participants were considered eligible for inclusion in the ADHD group if, using *DSM-III-R* criteria, the participant had 12 symptoms of ADHD. The determination as to presence of symptoms was made on the basis of parent interview. The clinical interview procedure used to make ADHD and Comparison group assignments in both studies was insufficient when compared to best practice in the

diagnosis of ADHD (Brock, 1999). Missing diagnostic procedures included teacher interviews, parent and teacher rating scales, observations, and psychometric testing. Given these facts, it is possible that the Felton et al. and Semrud-Clikeman et al. ADHD groups did not suffer from this disorder to the same degree as the children in the current research. In fact, Felton et al. state: "clinically significant ADD could be somewhat less frequent in our sample . . ." (p. 182). Thus, it is possible that the Felton et al. failure to find a difference between group membership and digit naming speed was because the ADHD group participants were not representative of children who manifest ADHD to a clinically significant degree. The findings of Tannock et al. (2000) provide partial support for this hypothesis. The participants in this study were selected from a previously identified ADHD population. These participants had been diagnosed by a multi-disciplinary team that used "diagnostic interviews with the child's parents and classroom teachers, standardized behavior rating scales, and screening of the child's intellectual potential, academic abilities and language abilities" (p. 240). Though Tannock et al. did not find significant naming speed differences between students with ADHD and controls in naming of letters and numbers, they did find that the ADHD group was slower than controls in naming colors.

Possible Reasons why ADHD Group DNS was Slower

It is suggested that differences in *DNS* found in the current study are a reflection of cognitive variables unique to the child with ADHD. At least among children who comprised the current ADHD sample (which excluded primarily hyperactive children), *DNS* performance may be a reflection of cognitive deficits related to ADHD, and not simply an indication of comorbid RD. In previous studies, the naming speed differences between non-RD participants with and without ADHD (although not always statistically significant) were in the direction found in the current study for digits (Felton et al., 1987; Semrud-Clikeman et al., 2000), and for letters (Semrud-Clikeman et al., 2000; Tannock et al., 2000). Children *without* ADHD tended to be quicker at digit and/or letter naming than did children *with* ADHD.

Research has suggested that, in general, children with ADHD have their greatest difficulty with tasks that require sustained attention (Douglas, 1983). Thus, it may be that poor *DNS* performance is a reflection of this difficulty. However, difficulties with sustained attention would not seem likely given that the *DNS* did not take very long (each of the two digit-naming trials lasted an average of less than 30 seconds). Further, the differences between the two digit-naming trials that comprise this test were not significant. For participants with ADHD the mean first trial time was 27.09 seconds ($SD = 7.24$), and the mean second trial time was 28.25 seconds ($SD = 11.42$). If it were difficulties with sustained attention that caused poor *DNS* performance, it might be expected that the performance of participants with ADHD would significantly decline from trial one to trial two.

An alternative explanation, consistent with the work of Barkley (1997), is that *DNS* difficulties were a consequence of a different type of attention deficit, a deficit specific to children with ADHD who have predominately inattentive symptoms. Barkley has argued that the predominately inattentive type of ADHD ". . . is not a true subtype but may actually represent a separate, distinct disorder, probably having a different type of attentional disturbance than the one present in ADHD combined type" (p. 24). In the past decade research has begun to suggest that this type of ADHD involves a focused or selective attention disorder and deficient speed of cognitive processing (Barkley, 1998; Barkley, DuPaul & McMurry, 1990; Hinshaw, 1992). Perhaps it is a deficit in cognitive processing speed that explains the ADHD group's relative *DNS* difficulties. This interpretation is consistent with the research reviewed by Goodyear and Hynd (1992). From an examination of neuropsychological and neurocognitive research, these reviewers suggest that deficits in the automaticity of acquired processes is a variable differentiating children with ADHD who are not hyperactive from those who are

hyperactive. It is noteworthy that the children with ADHD were lower in comprehension, but not basic reading skills (Brock & Knapp, 1996). Previous studies have shown that fluency deficits are related to poor reading comprehension (Fuchs, Fuchs & Hosp, 2001). Thus, their lower naming speed may contribute to lack of fluency and lower reading comprehension while basic reading skills are age appropriate.

Though Tannock et al. (2000) did not find differences in naming speed for digits, further discussion of their findings regarding differences in naming speed for colors is pertinent. Tannock et al., analyzed the effects of stimulant medication on naming speed for the children with ADHD. They found that moderate dose medication resulted in faster naming speed for colors (though not to the rate for controls), but not for alphanumeric stimuli. The authors reasoned that the differential impact could be attributed to the effortful, semantic processing necessary for retrieving categorical stimuli, such as colors, as opposed to the less effortful processing necessary to retrieve simple names for letters or numbers. Such reasoning is consistent with the ADHD groups' difficulties with reading comprehension (Brock & Knapp, 1996) and further supports the possibility that inattention, not hyperactivity, is the ADHD symptom that impacts naming speed. That the ADHD group had significant difficulties with naming of digits may be a consequence of the consistent presence of inattention within this study's sample.

Practical Implications

It may be that *DNS* has some diagnostic utility. To the extent that future research is able to validate the finding that individuals with ADHD are slower at digit naming, *DNS* may assist practitioners in diagnosing this disorder. At the very least, the current study suggests that practitioners exercise care when using *DNS* tasks to assess comorbid reading disabilities within the ADHD population. It may be that poor performance on *DNS* is a function of ADHD and not an indication of reading disabilities. Clearly, however, further research is required to document this technique's diagnostic value.

Limitations and Future Study

Before concluding this report, it is important to acknowledge its limitations. First, while attempts were made to focus the study on children with predominately inattentive ADHD symptoms, it is recognized that the participants did display symptoms of hyperactivity and impulsivity. The sample included children who could be classified as having the combined type of ADHD, and it is possible that the relationship between *DNS* is more or less significant among one of these subtypes. Second, generalizability is affected by the relatively small sample size. Finally, not all participants complied with the researchers' request to discontinue medications used to manage ADHD symptoms. Because this variable was not controlled, its effect on *DNS* is unknown.

It is suggested that a future study carefully construct a much larger sample that includes the different *DSM-IV-TR* (American Psychiatric Association, 2000) ADHD subtypes (Predominately Inattentive Type, Predominately Hyperactive-Impulsive Type, and Combined Types) and carefully matched normal peers, and then analyze group *DNS* performance differences. This study should include analysis of the relationship between *DNS* scores and ADHD symptom type severity, as well as the effect of medication on *DNS* performance.

REFERENCES

- Achenbach, T. M. (1991). *Child Behavior Checklist*. Burlington, VT: University of Vermont.
- Ackerman, P. T. & Dykman, R. A. (1993). Phonological processes, confrontational naming and immediate memory in dyslexia. *Journal of Learning Disabilities*, 26, 597-609.

- Ackerman, P., Dykman, R., & Gardner, M. (1990). Counting rate, naming rate, phonological sensitivity and memory span: Major factors in severe dyslexia. *Journal of Learning Disabilities, 23*, 325-337.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., Text Rev.). Washington, DC: Author.
- Barkley, R. A. (1998). *Attention deficit hyperactivity disorder: A handbook for diagnosis and treatment* (2nd ed.). New York: Guilford Press.
- Barkley, R. A. (1993). An update on draft of DSM-IV criteria for ADHD. *The ADHD Report, 1*, 7-8.
- Barkley, R. A. (1997). *ADHD and the nature of self-control*. New York: Guilford Press.
- Barkley, R. A., DuPaul, G. J., & McMurray, M. B. (1990). A comprehension evaluation of attention deficit disorder with and without hyperactivity defined by research criteria. *Journal of Consulting and Clinical Psychology, 58*, 775-790.
- Brock, S. E. (1999). The diagnosis of Attention-deficit/Hyperactivity Disorder in childhood. *The California School Psychologist, 4*, 18-29.
- Brock, S. E., & Knapp, P. K. (1996). Reading comprehension abilities of children with Attention-deficit/Hyperactivity Disorder. *Journal of Attention Disorders, 1*, 173-185.
- Conners, C. K. (1989). *Conners' Rating Scales Manual*. North Tonawanda, NY: Multi-Health Systems.
- Davis, J. M., & Spring, C. (1990). The digit naming speed test: Its power and incremental validity in identifying children with specific reading disabilities. *Psychology in the Schools, 27*, 15-22.
- Douglas, V. I. (1983). Attention and cognitive problems. In M. Rutter (Ed.), *Developmental neuropsychiatry* (pp. 280-329). New York: Guilford Press.
- Dunn, L. M., & Dunn, L., M. (1981). *Peabody Picture Vocabulary Test - Revised: Manual for Forms L and M*. Circle Pines, MN: American Guidance Service.
- Felton, R. H., Wood, F. E., Brown, I. S., Campbell, S. K., & Harter, M. R. (1987). Separate verbal memory and naming deficits in attention deficit disorder and reading disability. *Brain and Language, 31*, 171-184.
- Fuchs, L., Fuchs, D., & Hosp, M. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical and historical analysis. *Scientific Studies of Reading, 5*, 239-257.
- Goodyear, P., & Hynd, G. (1992). Attention-deficit disorder with (ADD/H) and without (ADD/WO) hyperactivity: Behavioral and neuropsychological differentiation. *Journal of Clinical Child Psychology, 21*, 273-304.
- Halperin, J. M., Gittelman, R., Klein, D. R., & Rudel, R. G. (1984). Reading-disabled hyperactive children: A distinct group of attention deficit disorder with hyperactivity. *Journal of Abnormal Child Psychology, 12*, 1-14.
- Healey, J. M., Newcorn, J. M., Halperin, J. M., Wolf, L. E., Pascualvaca, D. M., Schmeidler, J., & O'Brien, J. D. (1993). The factor structure of ADHD items in DSM-III-R: Internal consistency and external validation. *Journal of Abnormal Child Psychology, 21*, 441-453.
- Hinshaw, S. P. (1994). *Attention deficits and hyperactivity in children*. Thousand Oaks, CA: SAGE.
- Hynd, G. W., Lory, A. R., Semrud-Clikeman, M., Nieves, N., Huettner, M. I. S., & Lahey, B. B. (1991). Attention deficit disorder without hyperactivity: A distinct behavioral and neurocognitive syndrome. *Journal of Child Neurology, 6*, 35-41.
- International Dyslexia Association (1994). *What is dyslexia?* Retrieved 12/28/2002 from http://www.interdys.org/servlet/compose?section_id=5
- Lahey, B. B., Pelham, W. E., Schaughency, E. A., Atkins, M. S., Murphy, H. A., Hynd, G. W., Russo, M., Hartdagen, S., & Lorys-Vernon, A. (1988). Dimensions and types of attention deficit disorder with hyperactivity in children: A factor and cluster analytic approach. *Journal of the American Academy of Child and Adolescent Psychiatry, 27*, 330-335.
- Lovett, M., Steinback, K., & Fritjers, J. (2000). Remediating the core deficits of developmental reading disability: A double deficit perspective. *Journal of Learning Disabilities, 33*, 334-359.
- Meyers, M., Wood, F., Hart, L., & Felton, R. (1998a). Longitudinal course of rapid naming in disabled and nondisabled readers. *Annals of Dyslexia, 28*, 91-114.
- Meyers, M., Wood, F., Hart, L., & Felton, R. (1998b). Selective predictive value of rapid automatized naming with poor readers. *Journal of Learning Disabilities, 31*, 106-117.
- Norusis, M. J. (1987). *The SPSS guide to data analysis*. Chicago, IL: SPSS.
- Semrud-Clikeman, M., Guy, K., Griffin, J. D., & Hynd, G. (2000). Rapid naming deficits in children and adolescents with reading disabilities and attention deficit hyperactivity disorder. *Brain and Language, 74*, 70-83.
- Siegel, S. (1956). *Nonparametric statistics for the behavioral sciences*. New York: McGraw-Hill.
- Spring, C., & Capps, C. (1974). Encoding speed, rehearsal, and probed recall of dyslexic boys. *Journal of Educational Psychology, 66*, 780-786.

- Spring, C., & Davis, J. M. (1988). Relations of digit naming speed with three components of reading. *Applied Psycholinguistics*, 9, 315-334.
- Spring, C., & Farmer, R. (1975). Perceptual span of poor readers. *Journal of Reading Behavior*, 7, 297-305.
- Tannock, R., Martinussen, R., & Frijters, J. (2000). Naming speed performance and stimulant effects indicate effortful, semantic processing deficits in Attention-Deficit/Hyperactivity disorder. *Journal of Child Psychology*, 28, 237-252.
- Torgesen, J. K., & Houck, D. (1980). Processing deficiencies of learning-disabled children who perform poorly on the digit span test. *Journal of Educational Psychology*, 72, 141-160.
- Woodcock, R. W., & Mather, N. (1989). *Woodcock-Johnson Tests of Achievement*. Allen, TX: DLM.
- Wolf, M. (1986). Dyslexia, dysnomia and lexical retrieval: A longitudinal investigation. *Brain and Language*, 28, 154-168.
- Wolf, M. (1991). Naming speed and reading: the contribution of the cognitive neurosciences. *Reading Research Quarterly*, 26, 123-140.
- Wolf, M., & Obergon, M. (1992). Early naming deficits, developmental dyslexia, and a specific deficit hypothesis. *Brain and Language*, 42, 219-247.
- Wolf, M., Bowers, P., & Biddle, K. (2000). Naming-speed processes, timing, and reading: A conceptual review. *Journal of Learning Disabilities*, 33, 387-408.



Absenteeism: A Review of the Literature and School Psychology's Role

Jeffrey S. Goldstein
Lakeside Union School District, California

Steven G. Little, and K. Angeleque Akin-Little
University of the Pacific

A major problem faced by schools across the country is student absenteeism. Although the problem is pervasive in American schools, the attention focused on this issue has been inadequate. Poor student attendance has far reaching effects on the individual, the school, and society in general. The intent of this paper is to document the problem, summarize existing research on mediating factors, provide a summary of interventions for improving student attendance rates in schools, and to offer specific suggestions for school psychologists. In addition, specific attention is given to suggestions for future research to help expand the current understanding of the causes and remediation of poor student attendance.

Keywords: Attendance, Truancy, Intervention

One major barrier to learning faced by students and teachers in American schools today is a lack of consistent attendance in classrooms. In fact, the United States Department of Education (1994) has cited absenteeism as the most important factor linked to performance differences among students, and absenteeism has recently been identified as being at crisis proportion (Kearney, 2003). Although many schools realize the importance of this issue, educational researchers have not consistently given this topic the attention it deserves (Corville-Smith, 1995). Additionally, while some attempts to increase attendance rates have been successful, the methodologies used have had notable disadvantages including cost, drainage of faculty resources, difficulty of implementation, or time consumption (DeKalb, 1999; Lamdin, 1996).

Researchers have attacked this problem from a number of directions. For example, interventions have been community-based (McPartland & Nettles, 1991; Reid & Bailey-Dempsey, 1995), family-based (Copeland, Brown, & Hall, 1974; Volkman, 1996), and school-based (Gottfredson, Jones, & Gore, 2002; Noonan & Thibeault, 1974). The intent of this paper is to summarize existing research on improving attendance rates in schools and offer suggestions for school psychologists on how they can become involved in formulating interventions to help schools deal with problems of attendance.

Absenteeism

Truancy has been labeled one of the top 10 major problems in American schools, and rates of absenteeism have reached as high as 30% in some cities. In New York City, an estimated 150,000 out of 1,000,000 students are absent daily (DeKalb, 1999). Similarly, the Los Angeles Unified School District reports that 10% of its students are absent daily, and only half return to school with written

Correspondence should be addressed to Steven G. Little; Department of Educational and School Psychology; Benerd School of Education; University of the Pacific; 3601 Pacific Avenue; Stockton, CA 95211. Electronic mail may be sent via Internet to slittle@uop.edu.

excuses (DeKalb). Although school officials are unsure as to the proportion of legitimate versus illegitimate absences, nationwide estimates have ranged from 1-22% for illegitimate absences (Guevermont, 1986; Neilsen & Gerber, 1979). These studies may actually underestimate non-illness related absences due to the large margin of error likely to be found in self-report data of this nature. It is quite possible that the proportion of illegitimate absences has changed since these data were reported; however, no recent estimates are available. Additionally, the proportion of illegitimate absences may vary substantially among school districts in different parts of the country.

In the major metropolitan area of New York, for example, attendance rates for the boroughs of Brooklyn and Queens ranged between 86% and 96% for the 1998-1999 school year. The mean rate of attendance in Brooklyn's elementary schools was 90.63% ($SD = 2.15$), and for elementary schools in Queens the mean rate of attendance was 92.36% ($SD = 1.96$). By way of comparison, New York State's Nassau and Suffolk Counties on Long Island had elementary school attendance rates ranging between 88% and 99% for the 1997-98 school year. The mean attendance rate for elementary schools in Nassau County was 95.81 ($SD = 1.30$), and Suffolk County's mean rate of attendance was 95.33 ($SD = 1.32$) for elementary schools. Within the state of New York, attendance rates for different regions appear to vary substantially (New York State Department of Education, personal communication, May 18, 2000). It is possible that the proportion of illegitimate absences varies, as well.

DeLeonibus (1978) estimated an attendance rate of 96% as adequate, given 7 days of absence per student per year as based on norms for adults in the workplace. Although attendance rates from other parts of the country may differ, it is possible that DeLeonibus's criterion is too stringent an expectation for school children. For example, only one of a combined 386 elementary schools in Brooklyn and Queens surveyed by the authors met DeLeonibus's criterion. The means for suburban districts on Long Island were quite close to the 96% criterion; however, the majority of schools on Long Island (60.8%) also fell below this benchmark.

The magnitude of the attendance problem may be further illustrated with an example: If we consider a school with an attendance rate of 90%, this means that one of every 10 children may be absent on any given school day. Given class sizes of 25-30 students per class, this translates to two or three children missing per school day.

The consequences of poor attendance can be far reaching. Neill (1979) conducted a survey of 1414 members of the American Association of School Administrators to explore their opinions concerning the importance of attendance and perceived consequences of poor attendance. Administrators were concerned that chronic lack of school attendance could lead to permanent intellectual damage to students, as gaps in students' knowledge bases would be likely to arise. When students do not achieve their intellectual potential they limit career choices. Additionally, children who have high rates of absenteeism are more likely to drop out of school before completing high school (DeRosier, Kupersmidt, & Patterson, 1994; Gerics & Westheimer, 1988; Hersov, 1960; Neilson & Gerber, 1979). Given the positive correlation between academic achievement and monetary income (Greene, 1963; Reid, 1984), chronic absentees may be less able to sustain themselves or a family as they enter young adulthood. Absenteeism has also been found to be a predictor of future criminality, alcoholism, and occupational difficulty (Hersov & Berg, 1980).

Administrators that were surveyed in Neill's (1979) study were also concerned about potential effects on their schools from high degrees of truancy. Schools are, to some degree, economically dependent on attendance rates. Some districts even develop specific formulas using attendance as an indicator of overall school functioning (Epstein & Sheldon, 2002). Absenteeism was seen as contributing to the overall lowering of academic standards of a school. Administrators were concerned about increases in paperwork, and about the extra time teachers needed to spend working with students who

were absent. Time spent reviewing material was viewed as taking away from the learning time of the students who were present. Administrators felt high degrees of absenteeism lead teachers to become frustrated, and morale problems are more likely to be experienced when this occurs. Another concern was that high rates of absenteeism could have a negative effect on the school's relationship with the community as a whole, as the school institution may ultimately be viewed as burdensome rather than as a resource to assist children in becoming educated and responsible adults. Administrators were also concerned about the reduction in monetary state aid for the school resulting from absenteeism. Overall, administrators agreed (95%) that truancy was a major difficulty in their respective school districts.

Researchers have consistently found grades, achievement tests, and standardized tests to be positively correlated with individual attendance records. For example, Levanto (1975) found class ranks and IQ scores significantly correlated with rates of attendance. Lamdin (1996) compared attendance rates with California Achievement Test scores, reading grade level scores, and math grade level scores. Even while holding teacher/pupil ratio and socioeconomic status constant, attendance rates were positively correlated with all three scores. Additionally, Moos and Moos (1978) examined student absenteeism rate and average class grade, as well as social classroom climate. They found a $-.45$ correlation between rate of absenteeism and classroom grades.

School absenteeism has been a persistent problem for educators and researchers alike. The long-term consequences can be substantial, and decades of research have been dedicated to understanding the etiology of, and exploring intervention possibilities for absenteeism. The data presented in this section are by no means comprehensive. Recent data are sparse and an analysis of individual attendance patterns, and subsequent effects, is needed. For example, an attendance rate of 90% for a population probably represents some students who are absent a lot and some students who are infrequently absent, rather than each student being absent 10%. It would be more informative to provide information on the percentage of students who exceed a specific level than school district averages. Future research along these lines is highly recommended.

Mediating Factors

School absenteeism appears to be related to a number of diverse factors. Recent studies have suggested that factors from three major domains contribute to higher rates of absenteeism (Corville-Smith, Ryan, Adams, & Dalicandro, 1998; Southworth, 1992). Both of these studies have categorized mediating factors in terms of school-related variables, family environment, and personal characteristics of the student. Table 1 summarizes factors related to school absenteeism.

School Environment. A number of studies have examined elements specifically related to schools. Eaton (1979), for example, found relationships between teachers and students as the most significant factor related to absenteeism. Other studies have supported this notion, suggesting that conflict in teacher/student relationships contributes to absenteeism (Bealing, 1990; Harte, 1994). Corville-Smith and colleagues (1998) found evidence that a student's negative perception of school and school personnel may be a predictor of future absenteeism. Moos and Moos (1978) found similar results citing classroom environment as a major factor involved in absenteeism. Specifically, their study showed that classes with high absenteeism rates were perceived by students as high in competition and teacher control, and low in teacher support. This means that the overall climates of these classrooms were viewed as more competitive among classmates, there were more stringent rules and grading policies, and the teacher was perceived as less supportive of students' individual needs.

Neilson and Gerber (1979) conducted a study on truancy in junior high school. They examined chronic absenteeism from the perspective of the truant, conducting structured interviews with 33 persistent truants. When asked, 70% of truants cited elements related to the school as the major cause of

Table 1
Factors Related to School Absenteeism

School Environment	Home Environment	Individual Characteristics
1. Teacher/student conflict	1. Parental divorce/ separation	1. Low IQ
2. Negative perceptions of school	2. Parental unemployment	2. Poor academic performance
3. High competition	3. Illness/psychopathology	3. Few friends
4. High teacher control	4. Alcohol/substance abuse	4. Low social competence
5. Low teacher support	5. Family conflict	5. Low self-esteem
6. Stringent rules and grading	6. Moving	6. High levels of anxiety
	7. Low parental education level	
	8. Inconsistent parental discipline	
	9. Low SES	

Note. There is no one pattern that explains absenteeism. The literature on the etiology of absenteeism suggests a heterogeneous nature.

their truancy. Seventy-three percent disliked school, and 21% had mixed feelings toward school. Seventy-five percent of the sample noted experiences with classroom teachers as being the worst aspect of school. Much of the conflict was related to schoolwork, and a frequent complaint was that teachers did not provide enough personal attention and help with schoolwork. Although the grades of these truants declined only slightly from first grade, achievement test scores (on or near grade level during elementary school) fell drastically during junior high school.

Neilson and Gerber (1979) also found that truants perceived the school's response to their truancy as punitive and ineffective for diminishing future truancy. Truants in this particular school were sent to the assistant principal's office where they were lectured and at times given detention. Consistent with this finding, Frease (1979) found that schools' responses to inappropriate behavior may actually serve as a stimulus for future deviant acts.

Additionally, Wright (1978) found better attendance rates when school staff was younger, and when schools had lower pupil to teacher ratios. There has been considerable debate as to whether school size plays a role in education quality. Proponents of larger schools argue that they are less expensive to run than many smaller schools. They also suggest that greater resources, specialized services, higher quality teachers, and better facilities lead to higher test scores (Conant, 1967; Ornstein, 1990). Although standardized test scores have more often (but inconsistently) been found to be lower in smaller schools, supporters of smaller schools argue that there are lower rates of absenteeism and dropout, and higher rates of parental involvement, student satisfaction, and student involvement in extracurricular activities (Finn & Voelkl, 1993; Fowler & Walberg, 1991; Gardner, Ritblatt, & Beatty, 2000).

Home Environment. Neilson and Gerber (1979) also found factors related to students' home environments that may have contributed to their absenteeism. They found that truants had a number of family-related psychosocial stressors. For example, 40% had experienced the divorce or separation of their parents; 27% were from single-parent families; 40% had moved within the past 2 years; 38% had unemployed parents; 41% had a family member with a serious illness; and alcoholism was present in

19% of families in the sample. In fact, 76% of the families in their sample experienced three or more of the above stressors. Only 35% of the truants ate regularly with their family, and 57% had at least one parent who did not graduate from high school. It did not appear to the authors, however, that parents were directly encouraging truancy, as 90% of the parents were angry about their children's truancy. Despite these students' home stressors and difficulties within the school environment, most of the students and their families believed that receiving an education was important for future success.

Other studies have also explored factors related to students' home environments. For example, Huffington and Sevitt (1989) examined the families of truants, school phobics, and nonpsychiatric controls. They found that both absentee groups scored lower on measures of healthy family functioning. York and Kearney (1993) found greater levels of family conflict in families of school avoiders compared to normative controls. Additionally, Corville-Smith and colleagues (1998) found that absentee subjects were more likely to perceive parental discipline as lax or inconsistent, were more likely to perceive stronger attempts by parents at control, and were more likely to experience family conflict.

Socioeconomic status (SES) has also been examined in relation to attendance and school performance. A number of studies have found that economically disadvantaged individuals have lower attendance rates and lower grades (Alexander, Entwisle, & Bedinger, 1994; Greene, 1963; Reid, 1984). Alexander and colleagues hypothesized that this may be due to an unclear understanding of the "means-end" or "antecedent-consequence" relationship between school success and later goal attainment. These researchers examined parents' and students' recall of previous grades, expectation of future grades, and actual grades attained. Their sample consisted of 423 fourth grade students and their parents. When asked to recall the marks on their previous progress report, they found that low SES students overestimated to a larger degree than high SES students. Parents of low SES students also overestimated to a larger degree than parents of high SES students. The same trend held when they were asked to estimate the marks they would receive on their upcoming report card. Alexander and colleagues suggested that these parents and children are not using relevant feedback appropriately to improve and to form future expectations. Additionally, poorer families have considerably more social stressors than their middle class counterparts, which may affect school attendance.

Individual Characteristics. A number of child related factors appear to be associated with truancy, as well. For example, Greene (1963) found correlations between IQ, grades, and absenteeism. Children with lower IQs tended to have higher rates of absenteeism, and children with lower grades also had higher rates of absenteeism.

Platt (1943) found that children who had more friends were found to have lower degrees of absenteeism. Other researchers have also found that children who have lower degrees of social competence in their relationships with peers have higher rates of absenteeism (Corville-Smith, et al., 1998; Eaton, 1979; Reid, 1984; Southworth, 1992). Additionally, Lietz (1976) found that children who had more discipline problems at school were more likely to have lower attendance rates. More recently, DeRosier et al. (1994) conducted research indicating that rejected peers tend to have more externalizing behavior problems, more teacher-rated internalizing problems, and higher degrees of absenteeism. In terms of harassment and bullying, Rivers (2000) has suggested an association between harassment of lesbian/gay/bisexual youth and absenteeism. Similarly peer harassment/bullying may also lead to higher rates of absenteeism (Juvonen, Nishina, & Graham, 2000). In a study conducted with a sample of middle school students, these authors found that peer harassment predicted psychological adjustment, which in turn moderated school outcomes (e.g., absenteeism). Indeed, students with lower self-esteem and poorer academic self-concepts have been found to have higher absenteeism rates (Corville-Smith et al.; Reid, 1984; Southworth, 1992) and truants are more likely than nontruants to have higher levels of anxiety (Reid; Southworth).

The literature base concerned with the etiology of absenteeism suggests that the factors associated with absenteeism are heterogeneous in nature. This has led a number of researchers examining individual characteristics to distinguish among different types of absentee children (Berg et al., 1993; Guevermont, 1986; Hersov & Berg, 1980; Huffington & Sevitt, 1989; Mattison, 2000; Neilson & Gerber, 1979).

Truancy/School Refusal

Guevermont (1986) stated that “a useful distinction between types of persistent school absence depends on whether the absence is a correlate of a larger class of antisocial and delinquent activity, or is associated with affective states (e.g., anxiety) without coexisting antisocial behavior” (p. 581). Guevermont termed the former definition “truancy” and the latter definition “school refusal.” This discrimination has been widely used by researchers exploring absenteeism (Berg et al., 1993; Guevermont, 1986; Huffington & Sevitt, 1989; Mattison, 2000; Neilson & Gerber, 1979). However, it should be noted that more recent researchers have suggested the use of a common definitional approach combining both school refusal and chronic absenteeism (Kearney, 2003). Kearney suggests that the use of a common definition will increase consensus regarding definition, assessment, and treatment for professionals working with this population.

From a legal perspective, a persistent and unjustifiable pattern of absence from school is referred to as truancy. Among truants, Neilson and Gerber (1979) found high prevalence rates of disruptive classroom behavior, fighting, stealing, cruelty toward animals, vandalism, running away, fire setting, alcohol and marijuana use, academic difficulties, and truant siblings. These students were often from single parent homes, were unpopular with peers, and were absent without their parents’ knowledge. Additionally, when absent they tended to engage in activities outside of their home.

In contrast, school refusers were more likely to stay home when absent. Neilson and Gerber (1979) found that school refusal responses typically involved anxiety or phobic responses that interfered with attendance of school. These students typically valued high grades and appropriate classroom behavior. They were more often satisfied with teachers, had parents who were aware of their absences, and engaged in little antisocial behavior. Their fear is generally associated with a specific circumstance at school, or is related to separation anxiety from their primary caregiver.

Consistent with this delineation, research by Berg et al. (1993) showed that within their sample of 80 frequently absent students, 32% had *DSM-III-R* diagnoses of disruptive behavior type disorders (including oppositional defiant disorder and conduct disorder). Additionally, 17% of their sample had been diagnosed with a mood/anxiety disorder. They noted that the other 51% of their subjects had no psychological diagnosis.

Much has been learned about the etiology of absenteeism and of specific characteristics of chronic absentees. As this base of information grows, school psychologists and other school personnel become better equipped to develop appropriate intervention strategies to combat absenteeism.

Interventions

The problem of absenteeism has been addressed using a variety of intervention techniques aimed at different possible causal factors. Attempts have been made to implement punitive systems based on school policies (Bartlett, 1978), to increase parental involvement (Volkman, 1996), to use counseling techniques (Shechtman, 1993), and to provide individual incentives. Individual incentives have included money (Reid & Bailey-Dempsey, 1995), exemption from semester exams (Sturgeon & Beer, 1990), and qualifying for a special party (Barber & Kagey, 1977). A number of interventions have been directed specifically toward truants with behavior problems, and others have been focused on anxiety-

based school refusers (Berg et al., 1993). Although many successful interventions have been implemented, the majority have had notable disadvantages in terms of cost, complexity, time consumption, drainage of faculty resources, or level of overall improvement. Two practices that have not been found to be efficacious are the adoption of uniforms (Brunsma & Rockquemore, 1998) and the involvement of court systems (Hoyles, 1998). A summary of interventions can be found in Table 2.

Epstein and Sheldon (2002) conducted a survey of schools participating in the National Network of Partnership Schools at Johns Hopkins University. These schools were actively involved in creating partnerships with families and the community in order to increase attendance. Schools were asked to provide information about average daily attendance rates for three consecutive school years. In addition, schools reported the percentage of students identified as “chronically absent.” Schools were also asked to provide information on family involvement variables, existing programs and practices related to improving attendance, and the effectiveness of these programs. Results indicated that a comprehensive approach (i.e., focus on family, community, educators, and student variables) might aid in increasing attendance rates and reducing chronic absenteeism. Specific activities that were found to improve attendance and reduce chronic absenteeism included giving awards to students for improving their attendance, communicating with families, providing a specific school contact person for families, providing workshops for parents, and running after-school programs for students. Limitations to these types of interventions include time constraints, staffing and facility availability, and cost.

McPartland and Nettles (1991) evaluated project RAISE, a community based approach, which involved children who were at risk for dropping out of school. The program, beginning in 6th grade, assigned volunteers within the community to at-risk students. The volunteers helped tutor the students after school and accompanied the students to recreational activities. Contact was on a bi-weekly basis. Support staff met with the volunteers, and occasionally with the children to assess their progress. These advocates monitored attendance, grades, and behavior. Additionally, one full time director coordinated the program. Many outcomes of project RAISE were evaluated. Attendance and English grades improved significantly. Attendance was compared to a control group of at-risk non-RAISE students in the same middle school. The RAISE students exhibited a 3% increase, which translates into approximately 1 week (5.3 days) of additional school attendance per year. English grades improved, but were still below the district mean ($M = 71.72$ vs. $M = 73.05$). Math grades, overall grade point average, grade promotion, and California Achievement Test scores were unaffected. This program cost over 2 million dollars over a 7-year period for 420 students. This translates to 680 dollars spent per student, per year.

Other community related approaches have been somewhat less costly, and experienced similar levels of effectiveness. Reid and Bailey-Dempsey (1995) evaluated a program called PAY, which was used with 112 at-risk girls, grades six through 10, in a city in Vermont. Two types of monetary incentive contracts were contrasted for effectiveness. The “all or none” (A-N) contract specified that students were eligible to receive 50 dollars per month contingent upon a 15% improvement in their attendance or a 15% improvement in the average grade of their weakest three classes. The “incremental” (INC) contract specified that students were eligible to receive 10 dollars per class for each of four classes by improving performance by half a grade or more per class. If a student improved in all four subjects they would earn a 10-dollar bonus. Attendance contracts followed a similar system with partial reward for partial accomplishment, the details of which were not specified by the authors. Although there was concern that monetary incentives might undermine intrinsic motivation, their use was justified because these particular students appeared to have little motivation. The incentive was viewed as analogous to earning wages for going to a job.

Table 2
Summary of Interventions for Addressing Absenteeism

Intervention	Summary	Strengths	Weaknesses
Epstein & Sheldon (2002)	Evaluated comprehensive school programs	Improved attendance and reduction in chronic absenteeism	High cost, Time constraints; Staffing and facility availability
Project RAISE (McPartland & Nettles, 1991)	Community-based approach	Improved attendance, grades, and achievement test scores	High cost
PAY Program (Reid & Bailey-Dempsey, 1995)	Monetary incentive contracts	Modest effect on attendance and grades	High cost; Questionable effectiveness
Volkman (1996)	Parents attending school with child	Low cost; Easy to implement; Improved attendance	Disruptive to educational process
Noonan & Thibeault (1974)	Use of peer reinforcement through pairing of students (chronically absent with high attending)	Improved attendance; Low cost; Easy to implement; Easily applied to groups	Burden of responsibility on high attending student
Copeland, Brown, & Hall (1974)	Principal delivers praise via phone calls and in-class recognition	Improved attendance; Low cost; Easy to implement	Principal time constraints
Alexander, Corbett, & Smigel (1976)	Token reinforcement program (individual & group)	Improved attendance (highest with group)	High cost

Grade point averages for girls in the PAY program actually declined by .13 per school quarter. The grades of at-risk controls that received no intervention, however, declined by .54 per school quarter. The mean number of absences for girls in PAY increased by 1.41 days per quarter. In contrast, control group girls were absent 3.74 more days per quarter. Reid and Bailey-Dempsey (1995) suggested that the program had a modest positive effect on grades and a larger effect on improving attendance due to the more substantial decline in the control group's performance. In absolute terms, however, the program appears less successful. No differences were found between the two types of incentive programs.

An experiment done by Volkman (1996) involved parents of children by sending invitations to attend school with their child for 1 hour, 1 day per month. Parents were encouraged to sit next to their child to help answer questions and problem solve. Attendance improved significantly, however, no specific data were reported in terms of mean percentage change. This method was not costly or time consuming, however it is possible that having a parent in the classroom may become disruptive to the educational process. Additionally, some children may feel excluded if their parents are not available to attend the class.

Another intervention study utilized peer reinforcement to improve attendance. Noonan and Thibeault (1974) conducted a study with students in grades three through seven in a district in Kentucky, which had one of the highest dropout rates in the nation. Reportedly 75% of the students in this district dropped out before completing high school. Students with high grades and low rates of absenteeism were nominated by teachers and were randomly paired with chronically absent students. Students were instructed to verbally praise peers when they attended, and call when they did not attend to inquire the reason for the absence and to see if they would attend the next day. Attendance rates increased significantly from baseline to treatment and through follow-up. While this technique is cost effective, easy to implement, and easily applicable to groups, schools may be hesitant to implement this intervention because it places somewhat of a burden of responsibility on nominated students. Peer reinforcement has, however, been noted by several researchers as an effective means of modifying behavior (Gresham & Gresham, 1982; Skinner, Cashwell & Dunn, 1996; Slavin, 1977).

A well-known study by Copeland and colleagues (1974) utilized a school-based behavioral approach. They found that when the school principal called the parents of three chronically absent kindergarten and first grade students to praise them for having their children come to school, their attendance improved. The researchers conducted a second experiment showing that when the principal praised the students in the classroom each day for coming to school, attendance improved dramatically. Attendance improved for the three students from baseline rates of 51%, 53%, and 41% to 83%, 79%, and 85%, respectively. When praise was given intermittently, attendance rates dropped, but were still significantly above baseline at 70%, 68%, and 56%, respectively. This behavioral technique has the advantage of simplicity and cost-effectiveness. One potential disadvantage, however, is the amount of time the principal would have to spend contacting students if this was to be utilized with a larger sample of students.

Focusing on truants, Alexander, Corbett, and Smigel (1976) were able to increase attendance of predelinquent adolescents in a residential treatment center using a token reinforcement program. They utilized contingencies based upon subjects' individual performances, as well as contingencies based upon the entire group's performance. Children were awarded one dollar for lunch money if they had attended all classes the previous day. Attendance rose from a baseline rate of 51% up to 80% during the individual contingency condition. When the reward was contingent upon a level of group performance, attendance rose to 94%. This particular intervention was quite effective; however reinforcing students with money may not be feasible in most public schools.

Schools Psychologist's Role in Intervention

Absenteeism is a significant problem faced by administrators, teachers, and children in American schools. Students who have poor attendance may develop gaps in their knowledge base (Neill, 1979), are more likely to drop out of school (DeRosier et al., 1994; Hersov, 1960), and are more at risk for criminal behavior, alcoholism, and occupational difficulties (Hersov & Berg, 1980). Research has accrued over the past 60 years concerning absenteeism, and researchers continue to address this problem because of the serious consequences with which it is associated. School psychologists are in a unique position to aid schools in developing an appropriate response to this problem.

Moos and Moos (1978) found that classrooms high in competition, high in teacher control, low in teacher support, and with stringent rules and grading procedures tended to have higher rates of absenteeism. Consultation is an approach that has been proven effective in changing teacher behavior. School psychologists hoping to improve attendance rates would be advised to initially evaluate the climate within the classroom to determine if conditions such as those described above exist. If they are found to exist, a consultative approach designed to ameliorate these conditions may be advised.

Frease (1979) found that schools' punitive responses might actually be counterproductive in facilitating remediation of deviant behavior, including absenteeism. School psychologists would be advised to examine school disciplinary policies and work with school administrators on developing more proactive responses to decreasing absenteeism. Further, a number of studies (e.g., Corville-Smith et al., 1998; Eaton, 1979; Reid, 1984; Southworth, 1992) have found a relationship between inadequate social competence and increased absenteeism. This is especially true for rejected peers. Therefore, assisting schools in developing schoolwide social skills training programs may indeed lead, among other benefits, to a decrease in absenteeism.

Recommended Intervention. The most successful programs with the least significant disadvantages for improving attendance rates appear to be the behavioral contingency interventions (e.g., Copeland et al., 1974). Although the literature does not contain applications to attendance, a promising area of research involves the use of group contingencies. Litow and Pumroy (1975) categorized group contingency paradigms into three types of systems: independent, dependent, and interdependent. Interdependent contingency systems appear to be the most applicable interventions for increasing attendance rates. Interdependent contingency systems are established when "the same response contingencies are simultaneously in effect for all group members, but are applied to a level of group performance" (p. 343). If the performance of the group as a whole meets the criterion level then the entire group is rewarded. The classic example of the application of an interdependent group contingency system is the "Good Behavior Game" (Barrish, Saunders, & Wolf, 1969). This was implemented in a fourth grade classroom to reduce out-of-seat behavior and talking-out behavior. The class was divided into two teams, and if a member on either team displayed a target behavior, a mark was made on the chalkboard against that team. At the end of the day, the team with the fewest marks (or both teams, provided they had less than five marks) received positive reinforcement.

Although no study has specifically addressed increasing attendance using an interdependent group contingency, it appears to be highly promising technique for this purpose. For example, a class can be given the opportunity to earn extra recess time, during which no schoolwork is required of them. This reward can be given to the entire class each Friday if attendance is above the established criterion level for the class, regardless of individual student's attendance records. This type of intervention is cost effective, has proven efficacy for other target behaviors, and does not place excessive demands on teachers (e.g., time and resources). School psychologists, with their expertise in behavioral interventions, are the ideal individuals within the school to assist in the implementation of such interventions.

Future Research

The literature reviewed in this paper presents an extensive overview of previous research on the topic of school absenteeism. However, there is a paucity of research emphasizing developmental and contextual considerations (e.g., age, grade level, school type, and ethnicity). For example, mobility among certain ethnic groups may indeed result in increased rates of absenteeism (e.g., migrant farm workers). It is imperative that researchers in this area begin to examine specific demographic variables and their influence on attendance in order to fully comprehend their impact on school attendance rates. It is possible that interventions may be differentially effective based on these developmental and contextual considerations.

Future research should be directed not only toward developing effective interventions in the schools, but also toward community-based approaches. With improved community-school relations and improved community awareness of the benefits of education, it may be possible to improve attendance rates from multiple vantage points. Effective programs based in schools and in communities have the potential for improving not only attendance rates, but also known correlates of attendance rates and long-term quality of life.

Regarding school-based behavioral approaches, future researchers should attempt to gain a wide base of archival data from their target school. For example, it may be useful to determine specific information regarding when the majority of absences are occurring during the school year. It would also be important to know what proportion of children is contributing to the majority of absences. Additional studies could also focus on collection of information about school policies on attendance across a variety of schools. Rates of attendance could then be compared with these policies.

Archival information could be utilized to determine an optimal time during the school year to implement the intervention, to determine whether the focus should be on many children or on several chronic absentees, and to determine whether school policies are in any way impeding attendance. With this information, more suitable interventions could be tailored toward schools in need.

Research should also be focused on group contingencies. Several studies have examined Litow and Pumroy's (1975) three types of group contingencies (Elliott, Turco, & Gresham, 1987; Gresham & Gresham, 1982; Skinner et al., 1996); however, there is still some debate as to which is the most effective type of intervention. The more subtle aspects of group contingencies need further research in order for future interventions to be most effective. For example, variation of reinforcement, optimal size of reinforcement, and optimal level of feedback all need further exploration. Gaining further knowledge in this area can help optimize programs for use with various school populations.

In conclusion, poor attendance continues to be a pervasive problem at a large number of American schools. Since there are many negative individual outcomes associated with chronic absenteeism, this is a problem that deserves further consideration. A combination of community-based and school-based programs may be the most effective way to address this issue over the long term. With limited resources, however, the most direct and efficient methods available appear to be behavioral school-based interventions. Behavioral contingency approaches have had great success in improving a wide variety of other behavioral and academic difficulties within school systems (Barrish et al., 1969; Brantley & Webster, 1993; LaRowe, Tucker, & McGuire, 1980; Skinner, Skinner, & Cashwell, 1999).

REFERENCES

- Alexander, K. L., Entwisle, D. R., & Bedinger, S. D. (1994). When expectations work: Race and socioeconomic differences in school performance. *Social Psychology Quarterly*, 57, 283-299.

- Alexander, R. N., Corbett, T. F., & Smigel, J. (1976). The effects of individual and group consequences on school attendance and curfew violations with predelinquent adolescents. *Journal of Applied Behavior Analysis, 9*, 221-226.
- Barber, R. M., & Kagey, J. R. (1977). Modification of school attendance for an elementary population. *Journal of Applied Behavior Analysis, 10*, 41-48.
- Barrish, H., Saunders, M., & Wolf, M. (1969). Good behavior game: Effects of individual contingencies for group consequences on disruptive behavior in a classroom. *Journal of Applied Behavior Analysis, 2*, 119-124.
- Bartlett, L. (1978). *Absences. A model policy and rules*. Des Moines, IA: Iowa State Department of Public Instruction. (ERIC Document Reproduction Service No. ED 162 433)
- Bealing, V. (1990). Pupil perception of absenteeism in the secondary school. *Maladjustment and Therapeutic Education, 8*, 19-34.
- Berg, I., Butler, A., Franklin, J., Hayes, H., Lucas, C., & Sims, R. (1993). DSM-III-R disorders, social factors and management of school attendance problems in the normal population. *Journal of Child Psychology and Psychiatry, 34*, 1187-1193.
- Brantley, D. C., & Webster, R. E. (1993). Use of an independent group contingency management system in a regular classroom setting. *Psychology in the Schools, 30*, 60-66.
- Brunsmma, D. L., & Rockquemore, K. A. (1998). Effects of student uniforms on attendance, behavior problems, substance use, and academic achievement. *Journal of Educational Research, 92*, 53-62.
- Conant, J. B. (1967). *The comprehensive high school: A second report to interested citizens*. New York: McGraw-Hill.
- Copeland, R., Brown, R., & Hall, V. (1974). The effects of principal-implemented techniques on the behavior of pupils. *Journal of Applied Behavior Analysis, 7*, 77-86.
- Corville-Smith, J. (1995). Truancy, family processes, and interventions. In B. Ryan, G. Adams, T. Gullotta, R. Weissberg, & R. Hampton (Eds.), *The family-school connection: Theory, research, and practice* (pp. 270-287). Thousand Oaks, CA: Sage.
- Corville-Smith, J., Ryan, B., Adams, R., & Dalicandro, T. (1998). Distinguishing absentee students from regular attenders: The combined influence of personal, family, and school factors. *Journal of Youth and Adolescence, 27*, 629-640.
- DeLeonibus, N. (1978). *Absenteeism: The perpetual problem. The practitioner*. Reston, VA: National Association of Secondary School Principals. (ERIC Document Reproduction Service No. ED 162 424)
- DeKalb, J. (1999). Student truancy. *ERIC Digest*. Retrieved October 22, 2000 <http://eric.uoregon.edu/publications/digests/digest125.html>
- DeRosier, M. E., Kupersmidt, J. B., & Patterson, C. J. (1994). Children's academic and behavioral adjustment as a function of the chronicity and proximity of peer rejection. *Child Development, 65*, 1799-1813.
- Eaton, M. J. (1979). A study of some factors associated with the early identification of persistent absenteeism. *Educational Review, 31*, 233-242.
- Elliott, S., Turco, T., & Gresham, F. (1987). Consumers' and clients' pretreatment acceptability ratings of classroom group contingencies. *Journal of School Psychology, 25*, 145-153.
- Epstein, J. L., & Sheldon, S. B. (2002). Present and accounted for: Improving student attendance through family and community involvement. *The Journal of Educational Research, 95*, 308-318.
- Finn, J. D., & Voelkl, K. E. (1993). School characteristics related to student engagement. *Journal of Negro Education, 62*, 249-268.
- Fowler, W. J., & Walberg, H. J. (1991). School size, characteristics, and outcomes. *Educational Evaluation and Policy Analysis, 13*, 189-202.
- Frease, D. (1979). Delinquency, social class, and the school. *Sociology and Social Research, 57*, 443-459.
- Gardner, P. W., Ritblatt, S. N., & Beatty, J. R. (2000). Academic achievement and parental school involvement as a function of high school size. *The High School Journal, 83*, 21-27.
- Gerics, J., & Westheimer, M. (1988). Dropout prevention: Trinkets and gimmicks or Deweyan reconstruction? *Teachers College Record, 90*, 41-59.
- Gottfredson, G. D., Jones, E. M., & Gore, T. W. (2002). Implementation and evaluation of a cognitive-behavioral intervention to prevent problem behavior in a disorganized school. *Prevention Science, 3*, 43-56.
- Greene, J. E., Sr. (1963). Factors associated with absenteeism among students in two metropolitan high schools. *Journal of Experimental Education, 31*, 389-393.
- Gresham, F., & Gresham, G. (1982). Interdependent, dependent, and independent group contingencies for controlling disruptive behavior. *The Journal of Special Education, 16*, 101-110.
- Guevermont, D. C. (1986). Truancy and school absenteeism. *Interventions for Achievement and Behavior Problems, 26*, 581-591.
- Harte, A. J. (1994). *Improving school attendance: Responsibility and challenge*. Toronto: Canadian Education Association.

- Hersov, L. (1960). Persistent non-attendance at school. *Journal of Child Psychology and Psychiatry*, 1, 314-39.
- Hersov, L., & Berg, I. (1980). *Out of school: Modern perspectives in truancy and school refusal behavior*. New York: Wiley.
- Hoyles, D. (1998). Constructions of pupil absence in the British education service. *Child and Family Social Work*, 3, 99-111.
- Huffington, C., & Sevitt, M. (1989). Family interaction in adolescent school phobia. *Journal of Family Therapy*, 11, 353-375.
- Juvonen, J., Nishina, A., & Graham, S. (2000). Peer harassment, psychological adjustment, and school functioning in early adolescence. *Journal of Educational Psychology*, 92, 349-359.
- Kearney, C. A. (2003). Bridging the gap among professionals who address youths with school absenteeism: Overview and suggestions for consensus. *Professional Psychology: Research and Practice*, 34, 57-65.
- Lamdin, D. J. (1996). Evidence of student attendance as an independent variable in education production functions. *Journal of Educational Research*, 89, 155-162.
- LaRowe, L. N., Tucker, R. D., & McGuire, J. M. (1980). Lunchroom noise control using feedback and group contingent reinforcement. *Journal of School Psychology*, 18, 51-57.
- Levanto, J. (1975). High school absenteeism. *NASSP Bulletin*, 59, 100-104.
- Lietz, J. (1976). Comparing school grades with department and attendance for the disadvantaged elementary pupil. *Education*, 96, 291-292.
- Litow, L., & Pumroy, D. (1975). A brief review of classroom group oriented contingencies. *Journal of Applied Behavior Analysis*, 8, 431-447.
- Mattison, R. E. (2000). School consultation: A review of research on issues unique to the school environment. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39, 402-413.
- McPartland, J., & Nettles, S. (1991). Using community adults as advocates or mentors for at-risk middle school students: A two-year evaluation of project RAISE. *American Journal of Education*, 99, 568-586.
- Moos, R. H., & Moos, B. S. (1978). Classroom social climate and student absences and grades. *Journal of Educational Psychology*, 70, 263-269.
- Neill, S. (1979). *Keeping students in school: Problems and solutions. AASA critical issues report*. Arlington, VA: American Association of School Administrators. (ERIC Document Reproduction Service No. ED 177 704)
- Neilson, A., & Gerber, D. (1979). Psychosocial aspects of truancy in early adolescence. *Adolescence*, 54, 1-26.
- Noonan, R., & Thibeault, R. (1974). Primary prevention in Appalachian Kentucky: Peer reinforcement of classroom attendance. *Journal of Community Psychology*, 2, 260-264.
- Ornstein, A. C. (1990). How big should schools and districts be? *Educational Digest*, 56, 44-47.
- Platt, A.W. (1943). Intrinsic causes for public school absences. *School and Society*, 57, 307-308.
- Reid, K. (1984). Some social, psychological, and educational aspects related to persistent school absenteeism. *Research in Education*, 31, 63-82.
- Reid, W. J., & Bailey-Dempsey, C. A. (1995). The effects of monetary incentives on school performance. *Families in Society: The Journal of Contemporary Human Services*, 76, 331-340.
- Rivers, I. (2000). Social exclusion, absenteeism, and sexual minority youth. *Support for Learning*, 15, 13-18.
- Shechtman, Z. (1993). School adjustment and small-group therapy: An Israeli study. *Journal of Counseling and Development*, 72, 77-81.
- Skinner, C., Cashwell, C., & Dunn, M. (1996). Independent and interdependent group contingencies: Smoothing the rough waters. *Special Services in the Schools*, 12, 61-79.
- Skinner, C., Skinner, A., & Cashwell, T. (1999). Using interdependent contingencies with groups of students: Why the principal kissed a pig. *Educational Administration Quarterly*, 35, 806-820.
- Slavin, R. (1977). Classroom reward structure: An analytical and practical review. *Review of Educational Research*, 47, 633-650.
- Southworth, P. (1992). Psychological and social characteristics associated with persistent absence among secondary aged school children with special reference to different categories of persistent absence. *Personality and Individual Differences*, 13, 367-376.
- Sturgeon, R., & Beer, J. (1990). Attendance reward and absenteeism in high school. *Psychological Reports*, 66, 759-762.
- United States Department of Education (1994). *The Goals 2000 Act : Supporting community efforts to improve schools*. Washington, DC: Author.
- Volkman, B. (1996). *You can't educate an empty chair: Increasing student attendance through parent involvement in regular classroom lessons*. (ERIC Document Reproduction Service No. ED 415 466)
- Wright, J. (1978). Student attendance: What relates where? *NASSP Bulletin*, 62, 115-117.
- York, T., & Kearney, C. (1993, April). *Familial factors and the function of school refusal behavior in children and adolescents*. Paper presented at the annual meeting of the Western Psychological Association, Phoenix, AZ.

The California School Psychologist *Guidelines for Authors*

*Current abstracts and previous volumes are available on-line:
www.education.ucsb.edu/school-psychology*

The California School Psychologist is a refereed journal published annually by the California Association of School Psychologists (CASP). *The California School Psychologist* is devoted to contemporary issues in school psychology. The goal of the journal is to gather high quality articles concerning research, assessment, consultation, collaboration, training, service delivery, and other relevant topics that have implications for the profession of school psychology. It is also the intent of the journal to highlight the diversity of the profession and of the students, parents, and communities served by school psychologists in California.

Selection of articles to be published is determined on the basis of blind peer review. Reviewers examine the importance of the topics addressed, accuracy and validity of the contents, contribution to the profession, implications for the practice of school psychology in California, originality, and quality of writing. Professionals across the country are encouraged to submit manuscripts.

Contents of *The California School Psychologist* are available on international electronic literature databases, including ERIC, developed by the US Department of Education, and PsycINFO, developed by the American Psychological Association. Thus, it is essential to include up to five keywords following the abstract of each manuscript. In preparing your manuscript, please consider the review elements described above. In addition, authors must attend to the specific guidelines of the American Psychological Association Publication Manual, including the abstract, headings, citations, tables, and references. Manuscripts that are not prepared according to the APA format will be returned to the authors for revision prior to distribution to reviewers.

Manuscripts should be between 15-20 pages in length (including references and tables). The entire manuscript must be double spaced with at least 1-inch margins. Authors must include a cover letter stating the title of the manuscript submitted, and provide a mailing address, phone number, and e-mail for further correspondence. The cover letter must also specify that the manuscript has not been previously published and is not currently being considered for publication elsewhere.

Submissions should be mailed electronically to: Jimerson@education.ucsb.edu

Shane R. Jimerson, Ph.D. - Editor, *The California School Psychologist*
University of California, Santa Barbara - Gevirtz Graduate School of Education
Center for School-Based Youth Development - Santa Barbara, California 93106

The Center for School-Based Youth Development

The Center for School-Based Youth Development at the University of California, Santa Barbara is the sponsor of the special topic section of *The California School Psychologist* on "School Engagement, Youth Development, and School Success." Resources for this effort were made possible through a *Gevirtz Graduate School of Education - Funds for Excellence Grant* from Don and Marilyn Gevirtz. The Center addresses contemporary challenges for educating youth such as school violence, school discipline, substance abuse, child abuse, and learning disabilities. The Center assists students, schools, and educators through applied research, consultation services, training of professionals, and disseminating scholarly publications. UCSB scholars collaborate with local schools, community-based agencies, and scholars and professionals across the state of California and the nation. It is the mission of the UCSB Center for School-Based Youth Development to enhance school engagement for all students through strength-based assessment and targeted interventions designed to promote social and cognitive competence. This mission will be facilitated through research and development and by increasing the cadre of educators who are knowledgeable about and support a comprehensive and coordinated approach to student support services. For additional information about the Center, you may visit its website at www.education.ucsb.edu/school-psychology.

The California School Psychologist

2003 Volume 8

Shane R. Jimerson
Emily Campos
Jennifer L. Grief

Toward an Understanding of Definitions and Measures of School Engagement and Related Terms

Mary F. Sinclair
Sandra L. Christenson
Camilla A. Lehr,
Amy Reschly Anderson

Facilitating Student Engagement: Lessons Learned from Check & Connect Longitudinal Studies

Greg Jennings

An Exploration of Meaningful Participation and Caring Relationships as Contexts for School Engagement

Stacy L. O'Farrell
Gale M. Morrison

A Factor Analysis Exploring School Bonding and Related Constructs Among Upper Elementary Students

Irwin Hyman
Ian Cohen
Matt Mahon

Student Alienation Syndrome: A Paradigm for Understanding the Relation Between School Trauma and School Violence

Gale M. Morrison
Merith A. Cosden
Emily Campos
Stacy L. O'Farrell

Changes in Latino Students' Perceptions of School Belonging Over Time: Impact of Language Proficiency, Self-Perceptions and Teacher Evaluations

Michael J. Furlong
Angela D. Whipple
Grace St. Jean
Jenne Simental
Alicia Soliz
Sandy Panthuna

Multiple Contexts of School Engagement: Moving Toward a Unifying Framework for Educational Research and Practice

Stephen E. Brock
Catherine Christo

Digit Naming Speed Performance Among Children With Attention-Deficit/Hyperactivity Disorder

Jeffrey S. Goldstein
Steven G. Little
K. Angeleque Akin-Little

Absenteeism: A Review of the Literature and School Psychology's Role

• CASP
•
• 1400 K Street
•
• Suite 311
•
• Sacramento
•
• California 95814
•
• 916.444.1595 tel
•
• 916.444.1597 fax
•
• www.casponline.org

PRE SORTED
FIRST CLASS
US POSTAGE
PAID
PERMIT NO. 1797
SACRAMENTO, CA