Abstract Title Page

Title: Overview of Project REAL and the Conceptual Foundations of the SEALS Model

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Background / Context:

The early adolescent period and the transition to middle school is a foundational period that is as important to the outcomes of students' educational careers as is the transition into school. For many early adolescents, the changing contexts and demands of school are just as novel, the stresses are just as great, and the developmental stakes are just as high as when they first began elementary school (Eccles, 1999; Seidman, Allen, Aber, Mitchell, & Feinman, 1994). While the need to help first graders learn how to be productive students is easily recognized, the necessity of fostering new competencies in sixth graders to promote their comfort as autonomous but interdependent learners is not as readily apparent. Yet, research on adolescent adaptation and youth's adjustment problems during early adolescence strongly suggests there is a need for sixth-grade classroom contexts that help students learn to effectively negotiate new academic, behavioral, and social demands as they develop new identities, relationships, interests, and abilities. The Supporting Early Adolescent Learning and Social Success (SEALS) Model has been developed to address this need.

The SEALS Model builds from three distinct but complementary theoretical perspectives pertaining to youth adjustment and adaptation in school during the early adolescent years. The first framework, *the person-environment fit hypothesis*, centers on the developmental challenges that youth experience as they transition to middle school (Eccles, 1999). The second framework, *developmental science*, focuses on how factors and processes in key domains of development coalesce to contribute to individual functioning, adaptation, and growth (Cairns & Cairns, 1994). The third framework*, ecological intervention*, emphasizes intervention strategies that are aimed at systematically organizing and structuring the environment in ways that correspond with the developmental capacities and needs of individuals and that fosters the development of new skills, opportunities, and social roles that help to sustain productive patterns of adaptation and growth (Cantrell & Cantrell, 2007; Farmer, Farmer, & Brooks, 2010; Hobbs, 1966).

First, in accordance with the person-environment mismatch hypothesis, a central focus of the SEALS model is to teach teachers instructional and classroom management strategies that are responsive to the needs of struggling youth and that focus on structuring the classroom context in ways that teach early adolescents how to be effective middle school students (i.e., autonomous, self-directed learners). From this perspective, it is necessary to create an environment to bridge between the familiar environment of elementary school and the new environment of middle school. This does not mean that teachers during the middle grade years should try to replicate the elementary school context. Instead, the focus is on using strategies that scaffold between students' individual capacities and facilitates their development of new skills and competencies.

Second, in accordance with a developmental science framework, the SEALS model approaches intervention from the perspective that it is necessary to recognize the holistic nature of early adolescent development and to coordinate intervention across the academic, behavioral, and social domains. Therefore, as depicted in Figure B-1, the SEALS model has been designed to teach teachers that promoting the adjustment of early adolescent learners involves fostering their competencies and growth across these three domains in an integrated and synchronized manner. Further, the three components of the SEALS model (i.e., *Social Dynamics Management, Academic Engagement Enhancement*, and *Competence Enhancement Behavior Management*) have been designed to complement each other and to synergistically contribute to the adaptation and functioning of students.

Third, in accordance with an ecological intervention framework, the SEALS model is designed to focus on the daily activities of learning and to structure the context to align with

students' characteristics and developmental needs. Consequently, rather than focus on trying to "fix the student", teachers are taught to approach intervention in ways that utilize the context to foster and sustain new competencies and productive behaviors in students. This involves building upon students' strengths and using problems as opportunities to teach new skills. In addition, the SEALS model builds from research which shows that students' academic growth is linked to their social and behavioral adjustment during early adolescence and from research on the contributions of peers to learning and school adaptation. Thus, this model involves teaching teachers how to develop an awareness of classroom social dynamics and use this knowledge along with empirically supported management strategies to effectively promote students' engagement in instruction and to reinforce this by creating and maintaining a peer context that values learning and that fosters positive social behaviors/relationships among classmates.

Purpose / Objective / Research Question / Focus of Study:

The purpose of this paper is to provide an overview of the conceptual foundations of the SEALS model and to provide a foundation for the subsequent papers in this symposium that examine the use of the SEALS intervention in the Rural Early Adolescent Learning Program (Project REAL). This paper will involve a brief overview of empirical research that guided the development of the SEALS model as well as pilot research from Project REAL that served as a foundation for the cluster randomized trial that is the base for the other presentations. In addition, considerations for looking beyond the impact of the SEALS universal intervention and examining factors and processes that should be addressed in the development of selected and targeted programs for high-risk subgroups will be presented to foreshadow some of the analyses presented in papers 3 and 4 of this symposium.

Setting:

Project REAL took place in public schools serving sixth graders; schools were configured as either middle (grades 6-8) or k8/k12 schools. Schools were located in the Appalachian, Deep South, Southwest, Pacific Northwest, Far West, Southeast, Northern Plains, and Midwest regions of the United States. Participating schools were located in low-wealth communities designated as rural by the National Center for Education Statistics (NCES).

Population / Participants / Subjects:

The Project REAL sample involved 36 schools (18 matched pairs) including both pilot (8 schools) and CRT (28 schools) samples; 56% were middle schools. Data from NCES are the source of school demographic data. The current study included 28 Project REAL schools (14 matched pairs); 57% were middle schools. On average, the percentage of students eligible for free/reduced lunch was 61.52% (SD = 28.91). Schools ranged from 0% to 100% minority (M = 33.80%, SD = 38.99). On average 59% of students were at or above grade level for reading and math standardized test scores. Consent rate averaged 64.7% (SD = 13.69). School size ranged from 72-581 students. A total of 1587 students participated; 831 were female.

Teachers in intervention schools took part in the intervention components described below. Teachers in both intervention and control schools participated as research participants. All were sixth grade teachers; 72.6% were female, 47.2% held a graduate degree, 38.4% had done some graduate work, and 14.4% reported their highest degree as a four-year degree. Student participants were the sixth grade students of these teachers in the intervention and

control schools. For these students, 53.6% were female and 51.3% were classified as ethnic minority (African American, Latino, or Native American ethnicity).

Intervention / Program / Practice:

The SEALS model is a professional development program designed to train 6th grade teachers in strategies that foster productive classroom contexts. The program consists of three complementary interventions: *Academic Engagement Enhancement, Social Dynamics Management,* and *Competence Enhancement Behavior Management.* Consistent with a holistic model of human development illustrated in Figure B-1, these components are designed to have a collective, synergistic effect. Therefore, it is expected that the impact of each of the components will contribute to and support the impact of the other two components. This corresponds with the view that academic, behavioral, and social adjustment operate as a correlated system and that interventions in one domain should correspond with interventions that address correlated domains (see Farmer, Quinn, Hussey, & Holahan, 2001). The logic model that guides this synergistic approach to intervention is summarized in detail in Table B-1. This model should be viewed as a synergistic effort that links across the three intervention components to impact teacher practices, the peer and school context, students' general school functioning, and their academic outcomes.

Academic Engagement Enhancement (AEE). The AEE component involves providing middle school teachers with a structured format to start class and organize instruction to maintain the attention and involvement of students with learning difficulties (Gut, Farmer, Bishop, Hives, Aaron, & Jackson, 2004; Sutherland & Farmer, 2009). Teachers are taught a variety of strategies that promote the engagement of students whom typically struggle in the classroom. These strategies include oral review and instruction techniques, curriculum modification techniques, peer tutoring and small group activities, information processing strategies, behavioral momentum strategies and strategies to promote engagement by systematically providing at-risk students with frequent constructive feedback and opportunities to respond (e.g., Bos & Vaughn, 1998; Fuchs, Fuchs, & Burish, 2000). The goal is to provide a structure and format that maximizes the capabilities of teachers to be responsive to the diverse needs of students and that promotes the engagement of students who typically have difficulty in large class and didactic instructional settings.

Social Dynamics Management (SDM). SDM is an inservice training and directed-consultation model to enhance teachers' awareness of classroom social dynamics and the corresponding impact of such dynamics on students' academic engagement and classroom behavior (Farmer, 2000; Farmer & Xie, 2007). This model has been generated from years of research aimed at clarifying the social dynamics of aggressive and disruptive behavior in school (e.g., Cairns & Cairns, 1994; Estell, Farmer, Irvin, Thompson, Hutchins, & McDonough, 2007; Farmer, Estell, Leung, Trott, Bishop, & Cairns, 2003). With this component, teachers learn to identify distinct peer groups, hierarchical social structures, and students' social roles (e.g., leaders, followers, bullies, victims, and isolates) in the peer system (see Sutherland & Farmer, 2009). An emphasis is placed on understanding and preventing the social dynamics of bullying and social aggression. Teachers are taught how to use this information in their daily instructional and behavior management activities including grouping practices, peer tutoring strategies, and strategies to use peers to model and reinforce desired classroom behavior.

Competence Enhancement Behavior Management (CEBM). The *CEBM* program (Murray & Farmer, 2006) is a professional development training model that centers on proactive

classroom behavior management strategies. Teachers learn to teach and reinforce appropriate classroom behavior while providing constructive consequences to reduce problem behavior. At the core of this model, teachers learn to replace punitive approaches with management techniques that support positive engagement and strengthen prosocial patterns. The *CEBM* model was developed from evidenced-based practices for promoting positive classroom behavior (e.g., Lewis, Sugai, & Colvin, 1998; Nelson, 1996; White, Algozzine, Audette, Marr, & Ellis, 2001). This model addresses seven areas of behavior management: proactive management aims and goals, establishing productive classroom routines and structures, teaching and reinforcing appropriate alternative behaviors, building supportive relationships, communicating with students, using constructive discipline and natural consequences, and preventing and managing behavioral crises.

A central aspect of the CEBM component is that it is designed to bridge the AAE components and SDM components to create a general classroom ecology that brings together the academic, behavioral, and social aspects of productive classroom behavior. Thus, as depicted in Figure B-2, the focus of the SEALS model is on what happens within the school social context with individuals, peer groups, classrooms, and the entire school acting as components of an ecosystem in which each influences and is influenced by the other. As suggested by the arrow pointing from the teacher, the SEALS model views teachers as being in a position to lead or direct this ecosystem. Consequently, the focus of the SEALS training is at the level of individual teachers and teacher teams. However, as depicted by the other 3 boxes in the perimeter of figure B-2, it is also recognized that what teachers and students do in school is influenced by the administration and other teachers, school polices and school culture, and parent, family, and community factors. Therefore, while the SEALS model is designed to be a manualized intervention with a structured protocol, the fact that it is focusing on the daily school context means that SEALS must be responsive to the unique strengths, resources, and challenges experienced by each individual school site. To do this, the delivery of the SEALS intervention training follows a structured but flexible format that we describe as directed consultation.

The delivery of the SEALS training involves two days of a traditional workshop format immediately prior to the beginning of the school year, 10 internet-based self-guided training modules, and directed consultation. The directed-consultation approach is central to this model. Directed-consultation centers on integrating a standardized intervention into the daily activities and culture of the school. This involves conducting pre-intervention observations to identify the strengths and needs of individual schools and sixth grade teams, making pre-assessments of how the team operates, and determining how to structure the training and content so it is relevant to the goals and challenges that teachers view as their mission. With this approach, teachers assume a partnership role with the intervention specialist who conducts the training. Thus, across the various training components (i.e., inservice workshops, web-based modules, directed-consultation meetings), teachers typically become highly active participants who bring "real world" examples and issues to the training content and, in so doing, readily integrate the SEALS intervention strategies into their daily instructional and classroom management activities. The directed consultation includes at least 10 team meetings that correspond with the internet training modules. Additional team meetings are scheduled as needed (as determined by the intervention specialist) and additional individualized consultation and training may be conducted with one or more teachers on specific interventions when needed or requested.

Research Design:

As an overview, this paper does not present an actual study. However, it does report on the Project REAL cluster randomized trial that serves as the foundation for the other papers in this symposium. Therefore, the research design will be presented in this paper. It is a CRT that involved 28 rural schools from seven states in which matched pairs were randomly assigned to intervention and control conditions. Two cohorts were involved in this study with baseline data collection occurring in the spring of 5th grade and intervention beginning in the fall of 6th grade and implemented across the 6th grade school year. For Cohort 1, students were tracked from spring of 5 th grade through spring of 7th grade with data collection occurring both in the spring and fall of the school year. For Cohort 2, data collection followed the same schedule but students were tracked only through the completion of 6th grade.

Data Collection and Analysis:

As a conceptual overview and introduction to the symposium, data collection and analyses are not described in this paper. Instead, each of the subsequent papers in this symposium provide detailed descriptions of the data collection and analyses that reflect the specific research questions that they address.

Findings / Results:

As a conceptual overview and introduction to the symposium, this paper does not present any results of the CRT. Brief results from the pilot work that served to guide the development of the logic model and the deisgn of the CRT will be presented as part of the foundation for the other papers that will be presented in this symposium.

Conclusions:

In conclusion, early adolescence is a time of developmental vulnerability for many youth as they are exposed to new experiences and challenges that have the potential to adversely impact their school adjustment. However, this period can be viewed as a time of developmental opportunity. From this vantage, students can be taught new skills and can be supported by a social context that fosters their interdependence and helps them learn how to become successful learners. The SEALS Model has been developed to assist teachers in facilitating a productive transition from elementary to middle school as well as to support youth as experience new challenges during early adolescence. Based on RCT and CRT studies from Project REAL, the SEALS model shows significant promise as a universal intervention for increasing teachers' capacity to manage the classroom, for enhancing students' experience of the school social and affective context, and for promoting students' academic, behavioral, and social adaptation. While the REAL findings are encouraging, there is a need for additional work with respect to issues of assessment (e.g., screening) and intervention to evaluate the use of this program in suburban and urban schools. Further, there is a need to move beyond the universal aspects of the SEALS model and to develop selected and indicated interventions that are designed to provide more intensive interventions for youth who are not responsive to the universal SEALS model. When this is accomplished, it may be possible to utilize the early adolescent period and the transition to middle school as an intervention opportunity to promote positive development in all students including youth with disabilities and youth who are at high-risk for significant school adjustment problems.

Appendix A. References

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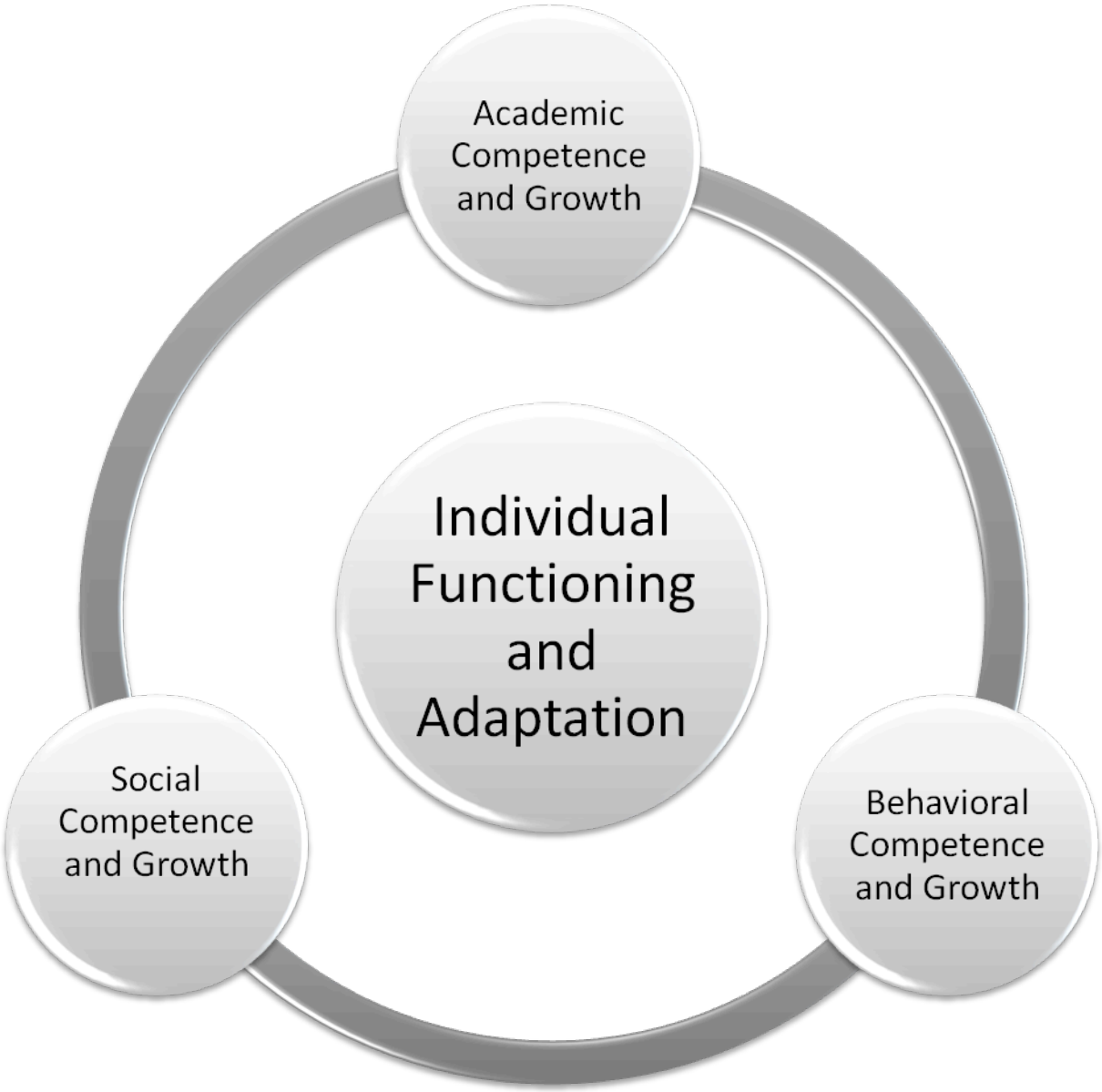
APPENDIX B: Table B-1

SEALS Model of Change

Intervention Component	Intervention Strategy	Teacher Functioning	School/Peer Context	Student Functioning	Student Outcomes
Academic Engagement Enhancement	starting class effectively; differentiating instruction; sequencing instruction	identifies struggling students (weekly online logs: TE)*; instructionally responsive to students (CLASS; COF, TE); reinforcing engaged behavior (CLASS; COF)	peer norms effort (PNAE); affiliations with academically productive peers (SCM-S) emotional risk for academic participation (ER); sense of belonging (SB)	behavioral involvement in instruction (CLASS; MOOSES); Valuing of School (SV)	teacher ratings (ICS-T); school grades (EOC grades); standardized tests (NC EOG assessments)
Competence Enhancement Behavior Management	using rules/ expectations; redirecting problem behavior; using natural contingencies as reinforcers	maintaining productive behavioral context (COF, TE); building supportive relationships (CLASS; TE); using problems to teach new skills (COF, TE)	well organized and supportive class context (CLASS, COF); reduction of prominent problem behavior peer groups (SCM-S; PBA)	positive and productive classroom behavior (PBA, MOOSES, ICS-T configurations); reduction of bullying involvement (PBA, ICS-T)	teacher ratings (ICS-T); school grades (EOC grades); standardized tests (NC EOG assessments)
Social Dynamics Management	managing peer context; managing processes of social synchrony; using natural leaders;	awareness of peer groups and social roles (SCM-T); seating and grouping practices (COF); using popular productive peers for models and for promoting group productivity (COF)	reduction in hierarchical social structures (SCM); dispersion of peer liking and disliking (SS); social prominence associated with positive group leaders (PBA, SCM); positive intergroup dynamics (SS, SCM); peer intervention in bullying (PPPB)	organizing behaviors around positive peers (SS; PBA; SCM-S) reduction in problem social behaviors and negative peer relations (SS; PBA; ICS-T) reduction in bullying involvement (PBA, ICS-T; COF)	teacher ratings (ICS-T); school grades (EOC grades); standardized tests (NC EOG assessments)

*The corresponding measure for each of these constructs is indicated in parentheses.
The Classroom Assessment Scoring System-Secondary - CLASS-S; Classroom Observation Form – COF; *End of Course Grades – EOC; Interpersonal Competence Scale – Teacher – ICS-T; Multiple Observation System for Experimental Studies-MOOSES; NC Standard Course of Study End-of-Grade Assessments – NC EOG; Peer Behavioral Assessments – PBA; Emotional Risk – ER; Peer Norms for Academic Effort – PNAE; Sense of Belonging – SB; Perceptions of Peer Protection from Bullying – PPPB; School Valuing – SV; Social Cognitive Mapping–Student – SCM-S; Social Cognitive Mapping-Teacher – SCM-T; Sociometric Status-SS; Teacher Efficacy – TE*

Appendix B. Figure B-1. Holistic Model of Development



Appendix B. Figure B-2. The Ecology of Classroom Management