© 2008

Sarah J Parker

TEACHER CONCERNS AND ELEMENTARY STUDENT OUTCOMES

IN A SCHOOL-BASED PREVENTIVE INTERVENTION

by

SARAH J PARKER

A dissertation submitted to the

Graduate School – New Brunswick

Rutgers, The State University of New Jersey

in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Graduate Program in Psychology

Written under the direction of

Maurice J Elias, Ph.D.

and approved by:

_____

_____

_____

_____

New Brunswick, New Jersey

October 2008

ABSTRACT OF THE DISSERTATION

Teacher concerns and elementary student outcomes

in a school-based preventive intervention

By SARAH J PARKER

Dissertation Director:

Maurice J Elias, Ph.D.

Teachers' feelings about, attitudes towards, and perceptions of their ability to implement

a particular program (called *concerns* by Hall, George, & Rutherford, 1977) are often

assumed to influence program delivery and, thereby, student outcomes. In this study, a

conceptual model of implementation (Greenberg, Domitrovich, Graczyk, and Zins, 2005)

helped elucidate how teacher concerns might influence student outcomes in a social-

emotional learning (SEL) program. Specifically, this process could occur through the

dosage, timing, and quality of program delivery, through teachers' psychological

"readiness" to implement the program, and through the environment they establish in

their classrooms, which may or may not support program principles. Three main

hypotheses were generated for study: that teacher concerns would change over time, that

student outcomes would vary with different profiles of teacher concerns, and that certain

teacher concern types could have cumulative effects on students over two years of

program implementation.

Over the course of two years, approximately 100 teachers in a disadvantaged, urban, and ethnic minority school district in central New Jersey completed the Stages of Concern Questionnaire (SoCQ) describing their attitudes about the program, and student and teacher ratings of student behavior were gathered. Approximately 2,300 second-, third-, and fourth-grade students participated. Cluster analyses of teachers' responses to the SoCQ yielded four distinct concerns profiles in each year. Analyses regarding developmental patterns of teacher concerns and their relationships to student outcomes yielded mixed results that did not clearly support or detract from the proposed relationships among these variables.

This study illustrated the importance of measuring a wide variety of implementation details when examining questions of this kind, using objective ratings instead of (or in addition to) student- and teacher-rated measures of behavior change, and employing multilevel modeling techniques (as opposed to traditional analyses of variance) when analyzing data nested within classrooms and schools. In addition, analyses suggested organizational effects on teacher concerns, certain profiles of teacher concerns that may be unique to disadvantaged districts, and varying rates of change among different aspects of student behavior as SEL skills are being acquired.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

TEACHER CONCERNS AND ELEMENTARY STUDENT OUTCOMES

IN A SCHOOL-BASED PREVENTIVE INTERVENTION

A widely held assumption in educational reform holds that teachers serve as lynchpins for the spinning gears of change (e.g., Hall & Hord, 2006; Spielmann & Radnofsky, 1997). This assumption is founded on common observations: students spend most of their school day in the classroom, and most classroom activities are initiated and guided by teachers. It therefore stands to reason that, should educational leaders decide that some or many of their systems' aspects need improvement, a significant amount of resources – financial, temporal, personnel – need to be directed to training and generating support for the change from teachers. Indeed, based on this assumption, one could argue that, without orienting and gaining buy-in from teachers, any educational reform effort would break down quickly.

This process may be especially important in one type of educational reform – programs that improve students' character and social–emotional competencies, and thereby prevent bullying, substance abuse, and other problem behaviors. This is thought to be so because of how little background in these interventions teachers receive as part of their professional development (Cohen, 2006). As a result of this deficit, many educators resist such initiatives because they have an incomplete understanding of how critical these programs are to an effective educational system. This resistance is often presumed to undermine their implementation of the program and thereby student outcomes. Hence arises another widely held assumption that educational systems planning to implement such programs must adequately address and resolve unsupportive feelings among their staff.

Making the assumption that teachers and their feelings are central to educational change efforts, however, leaves unexplored questions about the extent to which teachers' perceptions of, attitudes about, and capacities to support a preventive intervention (hereafter called *concerns*,[1] as in Hall & Hord, 2006) are actually related to their students' outcomes. Without data to demonstrate empirically the link between teachers' concerns and their students' behavioral improvement, school systems will have little justification for devoting their limited resources to addressing teachers' responses to a new intervention – even though much anecdotal and "best practice" evidence suggests that those factors are significant forces in implementation processes (Kress & Elias, 2006).

Opening the "Black Box" – Studies of Program Implementation

On a broader scale, the assumptions that implementers and program developers make about the importance of teachers concerns in effective program implementation and student improvement merely hint at how much there is left to discover about the complex mechanisms of change in preventive interventions. Though there is solid evidence of the overall effectiveness of preventive programs in terms of their ability to ameliorate a wide variety of problem behavior and to facilitate an equal range of healthy behavior (e.g., such reviews as Durlak & Wells, 1997, and Greenberg et al., 2003, as well as the Durlak & Weissberg's recent unpublished meta-analysis summarized in Weissberg, 2005), less is known about how programs achieve their effects. Studies of preventive interventions

---

[1] Note that Hall and Hord's use of the term *concerns* is distinct from its common usage, where it typically denotes worry or some other type of negative affect or cognition. In this study, *concerns* simply describes states of heightened arousal, usually in the form of perceptions or attitudes, which can take on positive and/or negative emotional valence. See section Teacher Variables within Systems Impacting Implementation for further explanation.

have tended to be of the "black box" variety; they presented a broad overview of program characteristics, and they often compared the outcomes achieved by an experimental group to those of a control group. Typically, however, they have revealed very little about how the program was purported to achieve these results and they almost never identified the components critical to program success or the required quantity and quality of exposure to those elements (Domitrovich & Greenberg, 2000; Forgatch, 2003; National Institutes of Health [NIH], 2005).

Studying the implementation of preventive interventions has begun to fill in many of these missing details (Greenberg, Domitrovich, Graczyk, & Zins, 2005; Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). Implementation studies (and evaluations of programs' efficacy or effectiveness that provide implementation information) assess and examine the effects of varying levels of, among other things, adherence and exposure to a program, its content and affective quality when delivered, and the resulting responsiveness of participants. Such research also provides important information about the systemic forces (at the classroom, school, district, community, and national levels) that affect program delivery. In short, implementation studies provide details about the degree to which the program – as delivered – matched the ideal scenario that typically is described in efficacy research and achieved the results found in those studies.

Examining how student outcomes vary with differences in implementation details contributes to at least two aims relevant to better understanding program mechanisms (Greenberg et al., 2005). First, variation in implementation across classrooms, schools, or districts can reveal the true "active ingredients" (e.g., role-playing, guided practice, didactics, literacy support), the "effective dose" (e.g., amount of time spent or number of

activities offered), or the structural components (e.g., administrative supervision and support, regular consultant contact) essential to the effectiveness of a particular program. For example, comparisons of student outcomes among variations in implementation levels within a school may illustrate that regular reminders of program principles during academic work time make a substantial difference in student outcomes; likewise, comparisons of student outcomes among several schools may indicate that principals who provided and responded proactively to a reporting and accountability structure for program implementation led schools where the intervention was more successful.

Second, studies of implementation can also provide support (or lack thereof) for underlying program theory. This process relies on intervention developers articulating how program components are purported to affect student outcomes. Assuming that is in place, when an implementation study demonstrates that expected results are achieved even when certain intervention components are adapted or neglected entirely, program theory can be refined accordingly. This process can improve and streamline program design. In this way, implementation research can provide important information about how interventions can most efficiently be enacted in real world systems, with less than ideal amounts of time, money, and human resources (Domitrovich & Greenberg, 2000).

An example of such a study may demonstrate these points. Skara and her colleagues (2005) compared student outcomes and teacher ratings of two versions of a high school drug-use prevention program, one that relied exclusively on "cognitive" techniques (such as awareness building and education) and one that combined "behavioral" techniques (such as skill practice and role plays) with cognitive techniques. They found that students' gains in drug-related knowledge (as measured by a pencil-and-

paper test) were statistically equivalent across the two versions, but students preferred the combined program. Though the researchers had not yet conducted analyses of students' actual drug use, they predicted that students' behavior might depend on an interaction between the type of high school (typical vs. continuation, or 'high-risk') and program type (cognitive only vs. cognitive and behavioral) – even though gains in knowledge were equivalent across school types in the study. This study therefore offered some evidence to support the use of a streamlined version of the program in relatively low-risk environments while leaving open the possibility that the full version might prove most beneficial to students in higher risk environments. Because Skara and her colleagues had measured implementation details, they were able to determine much more than the effectiveness of their program: they were able to determine some "active" ingredients (i.e., behavioral techniques) that were relevant to student engagement but not necessarily knowledge, and they were left with some informed hypotheses that could ultimately refine the program's underlying theory about mechanisms of behavior change in high vs. low-risk environments.

When more studies like this are published, the preventive programming field will be better able to articulate and demonstrate empirically the importance of the myriad processes involved in implementing these frequently complex interventions. This evidence will help program implementers to garner support for addressing many barriers to full scaling-up, even within systems challenged by limited resources. If sufficient evidence were to support the strength of the effects of certain aspects of implementation (for example, in this study, teachers' concerns) over others (say, delivery of the curriculum in one subject vs. another), school districts would be able to better prioritize

where they focus their efforts as they introduce a program in their school. Increased attention to the most influential aspects of implementation (and decreased use of resources to relatively unimportant aspects) would maximize student and school climate improvements, thereby greatly assisting the district in gathering support for the program and bringing it to scale.

Organizing the "Black Box" – a Conceptual Model of Implementation

Studying implementation may be important to understanding better how preventive programming works; the question then arises as to how best to study the topic – consisting as it does of seemingly innumerable forces interacting. The findings of the existing body of studies in the prevention field that have focused on implementation has been challenging to apply in practice because they lacked a unifying paradigm through which to examine and discuss relevant processes. To fill this need, Greenberg and a team of experienced school-based prevention individuals (2005) developed a conceptual model of implementation. This model encourages programs to identify two types of theory, causative and prescriptive; the former is to articulate the mechanisms of change proposed to produce improved student outcomes, and the latter is to provide details about how educational systems are to design, enact, and assess 1) the intervention itself, 2) implementation support systems, and 3) contextual factors that affect program implementation. In short, the causative theory describes how program mechanisms should work, and the prescriptive theory articulates how a program should be configured and delivered to enable its mechanisms to work.

Through the Greenberg model, the myriad processes involved in implementing school-based interventions can be enumerated and categorized (see Figure 1), thereby

laying the foundation for comparing related information from different studies. Further, by specifying the ideal or planned program and implementation supports through the Greenberg model and measuring them as they were actually delivered, implementation researchers using this framework can identify the discrepancies that 1) might account for failure to achieve expected student outcomes and/or that 2) might require an amendment and streamlining of underlying program theory.

The discussion now turns to the application of the Greenberg model to the current purposes of examining how teachers' concerns about a school-based preventive intervention might ultimately impact student outcomes. The causative theory underlying the intervention will first be articulated in order to clarify how the preventive program studied here is purported to change student behavior; that will be followed by a discussion of the portions of the prescriptive theory most relevant to analysis of teacher-related processes (as a full discussion of all of the prescriptive elements in Figure 1 would be beyond the scope of this project). This will both consolidate existing research related to the topic at hand and form an argument as to why one might expect teacher concerns about an intervention to impact their implementation of it and/or be detectable in student outcomes.

Causative Theory

The current study seeks to examine aspects of implementation related to teachers in a particular type of preventive intervention, a social–emotional learning (SEL) program. This type of intervention seeks to promote healthy behavior as much as prevent negative outcomes by helping students build a core set of emotion-regulation and social skills, which commonly include: self awareness (e.g., self-efficacy, identifying and

recognizing emotions; accurately recognizing one's strengths, needs, and values), social awareness (e.g., respect for diversity; perspective-taking and empathy), self management (e.g., impulse control; stress management; self-motivation and discipline; goal-setting; organizational skills), relationship management (e.g., working cooperatively; seeking and providing help; communication, social engagement, and building relationships; negotiation, refusal, and conflict management), and problem-solving / decision-making (including problem identification and analysis; generating solutions; evaluation and reflection; personal, moral, and ethical responsibility) (CASEL, 2003; Zins, Bloodworth, Weissberg, & Walberg, 2004). These skills are typically fostered in SEL programs through a framework based on psychological theories of learning and emotion regulation and with the goal of producing "knowledgeable, responsible, caring adults" (Elias et al., 1997, p. 1).

SEL skills acquisition subsequently improves individuals' ability to manage the challenges of relationships and academic learning (Weissberg, 2005). For example, a child who has poor understanding of how to effectively manage interactions with people at school may be unable to communicate appropriately her needs to teachers or to others in the classroom environment; this will likely hinder her establishing social bonds and accumulating academic knowledge. SEL curricula are also based on evidence that students' emotional experiences affect their learning, their demonstration of that learning, and their relationships with others in the academic environment. This is illustrated by contrasting the differences in information acquisition between a child who is enthusiastic about a topic and one who is not, or the differences in test results between a child who can use her anxiety about an exam to improve information recall and a child who is

overwhelmed by his fear of assessment. It has been demonstrated in numerous individual studies that, with improved social and emotional skills, students exhibit more positive social and academic behaviors (for a review, see Zins et al., 2004). In further support of this, Durlak and Weissberg's recent meta-analysis of nearly 380 studies found that students in schools with general preventive SEL programs not only had a 7.5 percent decrease in aggressive behaviors and 8 percent decrease in school disciplinary actions, they also had a 14 percent increase in achievement test scores (Weissberg, 2005).

Though these connections are somewhat intuitive, SEL programs' causative theory specifies how students acquire SEL skills and how that acquisition results in increased levels of knowledgeable, responsible, and caring behavior. This process was originally explained through Bandura's theories based on observations of social learning; recent work in social information processing (SIP) has provided a more precise and technical model of how programs might produce changes in how individual students encode, interpret, and respond to social cues. Both approaches will be reviewed here in order to provide a comprehensive description of program mechanisms at both individual and system levels.

Social Learning Theory

The ways in which students are believed to gain SEL skills through the curricula were described by Bandura's social learning theory (e.g., 1973, 1986), which has been supported by an extensive array of studies. He demonstrated that humans learn many of their contingent behaviors through observation of models. Bandura also emphasized the importance of the reciprocal interaction between individuals' behavior and their environment, finding evidence that a person's aggressive behavior usually creates an

environment that elicits further aggression. Bandura's proposed solution to aggressive

behavior, then, was to not only help an individual develop new behavioral patterns but

also to change the environmental contingencies that supported aggressive behavior in the

first place. The former component was important because, Bandura proposed, without

providing an individual with more effective skills, it would be very unlikely that

aggressive or antisocial behavior would change because it would inevitably, if

infrequently, be reinforced by the environment. To this end, Bandura proposed that

preventive or treatment programs be implemented in the individual's natural setting and

be carried out by individuals with whom the aggressive person would have extensive

contact (e.g., teachers or parents); this would increase the likelihood that new behavior

patterns would be elicited and reinforced by the individual's everyday context. Finally,

Bandura believed that aggression was frequently a function of how groups of people

interacted; because of this, he suggested that entire groups receive violence-prevention

interventions so that specific aggressive behavior could be altered even as the social

forces enabling it would be reduced (Bandura, 1973).

Based on Bandura's findings, effective SEL programs adopt a two-pronged

approach to SEL: intervention components are aimed at individual student behavior and

at the school climate in general. While it is critical that students learn about, practice,

and regularly perform new thinking and behavior patterns in their everyday interactions

at school, it is equally important to SEL program success that teachers and administrators

develop their own social and emotional skills and incorporate SEL paradigms and

techniques on a broad level throughout the school (e.g., within the disciplinary and

evaluative structure) (Elias et al., 1997). As these processes take hold, the classroom and

school become contexts in which social and emotional matters are openly discussed, practiced, and valued. When the educational culture changes this way, it is much more likely that any new skills being attempted by students will be noticed and reinforced.

SEL programs therefore put in place many pedagogical strategies to increase skills acquisition and practice, based on Bandura's ideas. The curricula rely on modeling by both adults in the educational environment (e.g., teachers and administrators) and by peers (e.g., fellow students and/or mentors) to convey and reinforce newly acquired social and emotional skills. Bandura demonstrated that individuals' learning of prosocial behavior patterns from models was facilitated by their motivation to pay attention to the model's actions, their ability to focus on salient aspects of the modeled behavior, and their familiarity with and use of all of the component responses comprising the modeled behavioral chain (Bandura, 1973). These facilitators are well integrated into effective SEL programming. Programs will, for example, put incentives in place for students to observe and practice new, more skilled behavior (in the particular program studied here, for example, videos are used to increase motivation to observe SEL skills); provide observation opportunities to help students focus on a specific set of skills or responses; and help teachers guide students' practice of new skills so that they can put together complex chains of socially or emotionally skilled behavior and responses (Elias & Clabby, 1992).

The Arsenio–Lemerise Model

Bandura's ideas have much empirical support, but they do leave unspecified the details of how learning through models and altered reinforcement contingencies produce altered behavior. Arsenio and Lemerise (2004) filled in this gap by pulling together

models from the social information processing (SIP) and moral domain fields (Nucci, 2001) in order to account for how children's thoughts, emotions, and decision-making processes interact in online SIP to produce prosocial behavior (Figure 2 provides a graphical representation of the following discussion). Drawing from the SIP field, they proposed that social behavior is the result of six SIP steps – encoding of cues, interpretation of cues, clarification of situational goals, response construction, response decision and evaluation, and behavior production. In their model, these SIP steps are influenced by *latent mental structures* (cognitive schema). Drawing from the moral domain field, Arsenio and Lemerise propose that *moral domain categories* (i.e., whether a person classifies a particular social behavior as a personal concern, societal convention, or general moral issue) become part of the latent mental structures underlying the six SIP steps. These cognitive schema may be made more salient in a given information processing event by their learned association with certain social stimuli. Incorporating Dodge's belief that cognitive processing is fundamentally generated and guided emotionally (Dodge & Rabiner, 2004) and Nucci's (2001) conclusion that moral reasoning and judgment occur within and are affected by an emotional context, Arsenio and Lemerise's SIP model also includes emotional variables (physiological arousal, moods, temperament, and regulation), which exercise a strong influence on the six SIP steps along with the latent mental structures.

This model is helpful in understanding the effects of SEL programs because it articulates the interactions between cognitive and emotional processes and their combined and individual effects on social information processing. It also depicts how behavioral strategies in preventive programs, for example, rehearsing alternatives to

common social interactions, can result in improved social skills. The Arsenio–Lemerise

model therefore specifies at least eight points of intervention by an SEL program within

the process of social behavior: in any of the six SIP steps, the cognitive schema/moral

domains of social information, and the emotional processes involved in SIP. These eight

sites are identified by a variety of symbols (one for each type of SEL skill, and one for

behavioral techniques) in Figure 2. In regards to the six SIP steps, SEL curricula can

alter how individuals *encode* social cues because they provide guidance on interpreting

others' facial expression and body language (social awareness) as well as recognizing

one's own emotional state (self-awareness). SEL programs can also affect how

individuals *interpret* social cues; increasing skills in empathy (social awareness), for

example, can facilitate interpreting aversive or aggressive social cues in a more neutral

and less personally relevant manner. The SEL curriculum can also change the kinds of

goals that students use to direct their behavior; for example, improved understanding of

teamwork and its benefits (relationship management) may help students prioritize group

goals over their own. Problem-solving and decision-making skills learned through SEL

programs have the potential to also change the types of *responses* to social input that

children access; instead of generating aggressive reactions to aversive stimuli, they might

access more prosocial behavior choices, such as requesting help or expressing feelings,

through improved problem-solving skills. With improved emotion regulation,

relationship management, and decision-making skills, students may make different

choices from among the behaviors they generate as possible solutions. For example, a

behavioral choice that involves managing anger might be chosen over a more explosive

one. SEL skills also may facilitate easier behavior *enactment*; repeated rehearsals of

assertive or prosocial behavior through the curriculum may increase the likelihood that production of such behavior is more fluid in everyday social interactions.

In addition to altering processes within the six basic SIP steps, SEL programs can also foster change at the deeper cognitive and emotional structures that influence them. In the Arsenio–Lemerise model, habitual behavior is explained by the activation of latent mental structures (including moral domain classifications) and emotional processes that are more accessed because of their ease of retrieval in association with an increasing variety and number of social cues. The emphasis on role-playing and other forms of skills practice in SEL programs is proposed, therefore, to make stronger the cognitive and emotional links between a variety of school situations and prosocial behavior, thereby increasing the likelihood that a student will respond with constructive, socially skilled behavior when she encounters a challenge in her environment. The incorporation of emotion regulation and identification skills in SEL programs can also improve the emotional context in which SIP takes place, helping students manage and use strong emotions in a productive manner. Finally, in addition to skills rehearsal and emotion regulation skills, SEL programs encourage teachers to help students reflect on their social and emotional decisions. This process can also alter the emotional and cognitive environment in which social decisions are made; instead of unconsciously responding in habitual ways, students are encouraged to evaluate their assumptions, their decisions, the consequences of their actions, and how they classify morally relevant material. This is proposed to allow different emotional and cognitive responses to arise and inform future SIP.

The Arsenio–Lemerise model describes in elegant detail the potential of SEL curricula to produce improved student outcomes. However, in order for any of these mechanisms to occur, it would seem necessary that teachers deliver curriculum content in a way that engages students in the frequently complex process of skills acquisition and practice that will alter their cognitive schema, emotional states, and SIP steps. Further, SEL skills practice and students' reflection on their social behavior rely on teachers' initiative and expertise in the classroom and other school environments. In support of these claims, Durlak and Weissberg's recent meta-analysis found that variables related to teachers strongly influenced (an effect size 0.85) students' outcomes in the 11 studies of SEL programs in which they were measured (Weissberg, 2005). This is why the current topic of study – teacher concerns about an intervention – is especially relevant to understanding SEL program mechanisms. Presumably, teachers' cognitive and emotional experiences have some effect on their delivery of a program. The ways in which this might occur and be expressed is discussed in more detail in the following sections, which provide the prescriptive – or "how to" – theory behind SEL interventions that enables the mechanisms described above to function.

Prescriptive Theory

In Greenberg and colleagues' (2005) model, prescriptive theory specifies the planned intervention and the planned implementation support, as well as the contextual factors that will affect both the actual intervention and implementation support. The exhaustive list of program and contextual aspects that are included in these three categories (see Figure 1) serves as a useful guideline for researchers and practitioners in assessing at the implementation of a program; further, the discrepancies between the

planned and the actual intervention and supports are measured as a way of determining

whether they might account for variation in student outcomes. The following discussion

uses the model in a more narrow way – to identify the ways in which teachers likely

affect implementation of a program. As a result, the following sections will focus solely

on those aspects of the intervention, implementation support, and contextual factors that

involve classroom educators, in order to make more clear the connection between their

concerns and student outcomes.

Teacher Variables Within the Planned Intervention

The first division of the prescriptive theory that Greenberg and his colleagues

suggest be described is the planned intervention itself, including the program's model,

quality of delivery, target audience, and participants' responsiveness. In a comprehensive

implementation study, each of these aspects would be specified and measured; only the

processes most likely to be impacted by teacher concerns – specifically the program

model and quality of delivery – will be explored here.

Program model. Implementation elements relevant to the program model include

the program's structure, content, timing, and dosage. While teachers often have little

input into the structure and content of an intervention, they may have significant control

over when, how, and how much of the program is delivered, inasmuch as it is presented

in the classroom. One particularly important dimension, the proportion of the total

program content that actually gets delivered – also called *dosage* – can have significant

impact on intervention effects (Wilson et al., 2001). In a study of the program under

examination here, it was found that second and third graders who experienced higher

levels of intervention components demonstrated improved ratings of social skills and

lower levels of problem behaviors, while the opposite pattern was true of children whose

teachers provided low levels of implementation (Mokrue, Elias, & Bry, 2005). In a study

of long-term effects of an SEL program that was a precursor to the TJ curriculum studied

here (Elias, Gara, Schuyler, Branden-Muller, & Sayette, 1991), the sample was divided

into those who had been in "high implementation" and "moderate implementation"

schools (based on dosage). Only those who had been in the high implementation group

outperformed their control group peers in measures of language arts and math

achievement and number of absences, 6 years after the original intervention. These

studies specifically point to the importance of teachers delivering enough of the

curriculum that the mechanisms specified in Causative Theory, above, can function.

In addition to dosage, teachers often have some control over the timing of

delivery, including the point of the school year at which a program is presented, as well

as the frequency and length of sessions. In many ways these factors are related to dosage,

and would be important for the same reason – that sufficient program components had

been delivered so that the alterations in online SIP described previously might occur.

Timing can be important for another reason: Programs that are delivered over

longer periods of time yield cumulative benefits for students by offering opportunities to

practice and to be reinforced for enacting SEL skills in newly-encountered contexts (Elias

et al., 1997). As described by Bandura (1973) and Arsenio and Lemerise (2004), skills

generalization to an increasing variety of social contexts is important to lasting, improved

student behavior. Furthermore, development unfolds as a dynamic process over time and

offers critical junctures at which an intervention is most needed and effective (e.g., the

transition to middle school); each program participant might experience those junctures at

his or her unique moment in time, but prevention programming that is implemented over longer periods of time is likely to reach a greater number of students at such sensitive points (Durlak & Wells, 1997; Nation et al., 2003). Therefore, through their control over the dosage and timing of the program intervention, teachers may have significant impact on whether enough of the program is delivered – and delivered at the right time – in order for it to produce the desired effects (Elias et al., 1991).

Ultimately, teachers' feelings and attitudes towards a particular curriculum might be expected to impact the program model in terms of the dosage and timing that are actually delivered to students. This may be especially so when that curriculum is quite complex (such as the one studied here) and has the potential to be seen as "less important" than the traditional academic lessons they have been asked to deliver. On one hand, if teachers' concerns reflect strong support for the curriculum, they might be more likely to make the lessons a priority in the school day and to deliver as much of the program as possible within the allotted time. They also might invest more energy to emphasizing SEL principles outside of lesson time, which would result in a higher dosage and ideal timing of new skills practice. On the other hand, if teachers' feelings and attitudes about the program are less than supportive, or if they are primarily concerned with managing the complexity of the curriculum, they might consistently prioritize other subjects during the week and spend less energy in reinforcing fledgling SEL skills outside of lesson time, thereby resulting in lower dosage and less than ideal timing of curriculum delivery and skills practice.

Quality of delivery. Another aspect of the intervention implementation for which teachers have responsibility is the quality of program delivery (again, assuming that the

program relies on them to deliver its content). In general, educators' affective and interpersonal characteristics have been shown to affect their students' outcomes in ways that are consistent with intuitive expectations (den Brok, Brekelmans, & Wubbels, 2004; Goh & Fraser, 2000). In fact, in den Brok et al.'s study, the interpersonal behavior of teachers was found to account for up to more than half of the variance in student outcomes (at the teacher / class level in a multilevel analysis) in an examination of 45 physics and 32 English as a foreign language high school teachers. This suggests that a teacher's style of teaching and interacting with students may explain more than half of their influence on student outcomes.

In addition to affective quality that influences students' engagement, in a skills-based SEL curriculum, it is particularly important for teachers to use the intervention techniques (e.g., role-plays, cooperative learning, games, reinforcement of principles throughout the school day, and reflection / discussion) that help students acquire skills. As detailed above, and demonstrated empirically, such techniques have been found to support students' learning of the material: Durlak and Wells' (1997) meta-analysis, for example, found that mental-health preventive programs that relied on developing competencies through behavioral or cognitive-behavioral methods (e.g., modeling, role-playing, self-control strategies) yielded effect sizes nearly twice as large as those employing other techniques (e.g., traditional didactics, non-directive counseling, group discussion); these results were replicated in several other meta-analytic reviews (Springer et al., 2004; Wilson et al., 2001; see also Caplan, Weissberg, Grober, Sivo, & et al., 1992). Several of these reviews also highlighted the importance of ensuring that teachers provided opportunities for practicing new skills that were varied enough to enable

students to generalize their new competencies to settings other than the one in which the program was implemented (CASEL, 2003; Elias et al., 1997; Weissberg et al., 2003). Most every SEL curriculum, including the one described here, emphasizes the generalization of skills into contexts other than within the lesson plan. Teachers are primarily responsible for guiding this process – also known as "teachable moments" – in the classroom. An effective teacher who is concerned about fully implementing an SEL program will identify those naturally occurring situations when he might help his students understand the salience of SEL skills by using them to cope more effectively than they might ordinarily. For example, a teacher might guide students in using self-management techniques when taking exams or social problem-solving skills to resolve classroom conflicts or bullying.

This is not to imply that traditional didactics or the provision of prevention-related information are unimportant, however. On the contrary, effective teaching techniques – for example, collaborative and constructivist approaches to teaching competency-related subject matter – are necessary for sustaining students' curiosity and interest, which themselves are prerequisites for skills acquisition (Berkowitz & Bier, 2005). As one of the founders of the Character Education Partnership, Thomas Lickona, has often said, "it is just as important to preach what you practice as it is to practice what you preach" (Berkowitz & Bier, 2005, p. 19). All preventive programs ultimately rely on effective pedagogy; however, good didactics are made more effective when they are combine empirically supported teaching methods of social–emotional competencies with a focus on practicing the new skills in specific, relevant social tasks that help students employ them to cope with stressors (Caplan et al., 1992). Should teachers' concerns interfere

with their ability to connect emotionally with their students, or prevent them from using cooperative learning techniques or help their students with guided skills practice, it would seem likely that student outcomes would suffer.

Teacher Variables Within Planned Implementation Support

In addition to aspects of the program dosage, timing, and delivery over which teachers have direct control, they also play important roles in supporting the implementation of the program in their classrooms and schools. Through these roles, they may have a significant effect on a program's ability to produce improved student outcomes.

Implementer readiness. Greenberg and his colleagues (2005) explained that an important set of processes related to implementer "readiness" is crucial to supporting the implementation of an intervention. These processes include some variables that are directly assessed by this study: whether teachers think that have the required skills to deliver the program as intended, the extent to which they understand the program's theoretical rationale, their affective response to the program and its contribution to the educational experience, and their commitment to its goals.

How these variables might impact teachers' delivery of a program makes intuitive sense. If a teacher were uncomfortable engaging children in role-plays, or did not understand the link between SEL and improved academic and behavioral performance, or were resistant to the program's methods or content or disagreed with teaching such topics in school, she might neglect or resist program implementation. In addition to this intuitive argument, some research has suggested links between teachers' psychological processes, their ability to deliver interventions effectively, and student outcomes.

In general, it is acknowledged in both the medical and educational fields that cognitive and affective processes influence individuals' selection and implementation of innovations (Clark & Elliott, 1988; Elliott, 1988; Elliott & Treuting, 1991; Gagnon, Sanchez, & Pons, 2006; George, Hall, & Uchiyama, 2000; Kallestad & Olweus, 2003; Sladek, Phillips, & Bond, 2006). Elliott (1988, 1991) and colleagues (Clark & Elliott, 1988) found that teachers' assessments of a program's acceptability and effectiveness predicted their use and implementation of it. This trend was confirmed by a recent review of variables related to teacher implementation of school-based mental health programs (Han & Weiss, 2005). The authors identified that teachers' perceptions of the compatibility of the program with their existing beliefs, their perceptions of its acceptability, and their views of the program's likely effectiveness determined the extent to which teachers implemented an educational innovation. Perhaps not surprisingly then, others have found that, when educational reform efforts are initiated with insufficient attention to teacher readiness and support, they do not succeed (Nastasi, 2002). The construct of teacher concerns, which will be further elucidated in the following section, incorporates teacher readiness, and can therefore be expected to influence their program implementation, as well.

A concept closely related to readiness, teacher efficacy – based on the more commonly discussed construct of self-efficacy described by Bandura (1986) – is the belief that a teacher has about his/her ability to achieve the goals s/he sets. In a review of teacher efficacy literature, Ross (1995) found that the construct was positively correlated with students' cognitive and affective development, as well as their academic achievement. It was also found to predict teachers' attitudes towards incorporating

cooperative teaching in their classrooms (Ghaith & Yaghi, 1997). Teacher efficacy has also correlated with student outcomes in a large-scale school improvement process in Louisiana (Lofton, Ellett, Hill, & Chauvin, 1998) and to teacher implementation of a bullying reduction program (Kallestad & Olweus, 2003).

This evidence suggests that the psychological preparedness with which teachers greet a new educational innovation may have significant impact on the extent to which they implement it, and, as a result, the outcomes of their student-participants. Such evidence provides a strong argument that teachers' concerns, which comprise a partial measure of their readiness to implement a program and their self-efficacy about that implementation, might be found to be related to the effects of the SEL program being studied here.

Teacher Variables Within Systems Impacting Implementation

Greenberg and his colleagues (2005) enumerated four nested system forces that impact intervention implementation. They specified classroom, school, district, and community variables that would be important to examine when studying a program's incorporation into an educational environment. This section will discuss the first set of variables in light of the current study's focus on teacher concerns. In addition to classroom factors, however, another ecological/system force will be addressed in this discussion: time. In the original Bronfenbrenner model of ecological systems, the *chronosystem* represented the forces of time and development on the system being studied. Similarly, time functions as a force of change in preventive program implementation. Many interventions are slowly introduced into an educational system over the course of years, often starting with small pilot projects with limited teachers or

grades and moving on to encompass whole schools, grade levels, districts, and even states. Over time, the planned intervention, implementation supports, and contextual factors change, so continual assessment of teacher attitudes over time may be important to understanding the processes of change.

Classroom factors. Teachers are primarily responsible for establishing the classroom context in which students learn. As discussed in the Causative Theory section, successful SEL programming relies on educational environments that are safe, caring, well managed, and participatory (CASEL, 2003; Elias et al., 1997; Lickona et al., 2003). Ideally, the school itself becomes such an environment, but individual classrooms could themselves become havens within a less supportive context; teachers clearly would play an important role in that process. This type of supportive educational climate fosters more positive, nurturing relationships between students and teachers (Lickona et al., 2003; Springer et al., 2004), which have been widely acknowledged as protective factors against negative youth outcomes. Further, a healthy and well-managed learning environment can promote student bonding to their schools (Berkowitz & Bier, 2005; Greenberg et al., 2003; NIH, 2005), which is another powerful protective factor against academic failure, delinquency, and a host of other problem behaviors. Classroom educators may have little say in whether their schools acquire such ideal qualities, but they are able to impact their own classrooms' level of safety, caring, boundaries, and participation in order to provide an environment that encourages learning of both academic and social and emotional matters.

Crucial to this process is adequate professional development and support both before and during program implementation to help teachers develop their own SEL

competencies and to create an educational community that supports the same SEL skills and prosocial behavior that the program fosters within students (Berkowitz & Bier, 2005; CASEL, 2003; Elias et al., 1997; Lickona et al., 2003; Nation et al., 2003; NASP, 2003). Not only does this help staff handle their own professional challenges more effectively, it increases the likelihood that they will model program principles through their own behavior and reinforce such behavior when they witness it (Berkowitz & Bier, 2005; Lickona et al., 2003). In these ways, the climate of the classroom becomes more supportive of students' fledgling social–emotional skills. It would make intuitive sense that, for optimally successful SEL programming, teachers' concerns must be focused on more than simply delivering the program to their students; for full SEL program effects, educators must commit to incorporate SEL throughout the curriculum and into their classroom environment. It seems likely that such a significant dedication of time and energy would rely on teachers' attitudes and feelings. Therefore, teacher concerns may be an important influence among the classroom contextual factors affecting program implementation.

Developmental course. A significant body of research has demonstrated that teachers' attitudes and perceptions towards an educational innovation change over the course of its implementation (Hall & Hord, 2006). This holds true of preventive programs, as well; in a study of the Life Skills Training SEL curriculum, for example, it was found that teachers' sense of work environment and efficacy changed as a result of participating in the program, but not until after two years (Shechtman, Levy, & Leichtentritt, 2005).

In order to describe how teachers' attitudes change over time, the discussion turns now to "the change-based model of adaptation" (CBAM) developed by educational psychology researchers Hall and Hord (2006) and their colleagues. This model, which is based on more than 20 years of school-based research, describes how organizations implement *innovations* (educational improvements). Hall and Hord propose that several general principles guide system change. The most important of these is that "change is a process, not an event" (p. 4), specifically a 3- to 5-year process that occurs along several system dimensions. CBAM principles also specified that an organization "does not change until the individuals within it change" (p. 7), a subprocess that is influenced by human factors, such as concerns, within the school context. Therefore, Hall and Hord's principles of change emphasize the importance of developmental and psychological processes in school change. In their view, system transformation occurs over time and cannot happen without significant changes within the teachers and administrators themselves; without such changes, they argue, there will be no adequate implementation, and without implementation, they reminded their readers, "there will be no change in outcomes" (p. 9). One element of these required system changes are the teachers' perceptions and attitudes toward the program, including their capacity to support it (Hall, George, & Rutherford, 1977). It was Hall and Hord who first called these perceptions, attitudes, and capacities *concerns*, which they further explained:

> To be *concerned* means to be in a mentally aroused state about something. The intensity of the arousal will depend on the person's past experiences and associations with the subject of the arousal, as well as [on] how close to the person and how immediate the issue is perceived as being. Close personal involvement is likely to mean more intense (i.e., more highly aroused) concern which will be reflected in greatly increased mental activity, thought, worry, analysis, and anticipation. Through all of this, it

is the person's perceptions that stimulate concerns, not necessarily the reality of the situation. (Hall et al., 1977, p. 5)

Hall and Hord (2006), based on Fuller's (1969) work, proposed that teachers' concerns can develop through a series of stages. More specifically, they described how teacher concerns initially would be unrelated to the particular curriculum they had been asked to implement, then might change to concerns about the *Self* in relation to the curriculum (e.g., how the demands of the program might affect their workload and success in the classroom), and subsequently to *Task* concerns about the logistics of implementing a curriculum, and, finally, to *Impact* concerns about how the program would affect student outcomes. Within these original four categories, Hall and Hord (2006) further defined seven *stages of concern* they commonly found among teachers who were asked to implement educational innovations (Table 1 provides a summary of the following with Fuller's original categories for easy reference): *Awareness* (an 'unrelated' concern in which educators lack knowledge or feelings about the innovation), *Informational* and *Personal* concerns (Self concerns in which teachers are primarily gathering information about the program and evaluating how it will affect their teaching practice), *Management* (a Task concern, as described previously in Fuller's work), *Consequence*, *Collaboration*, and *Refocusing* concerns (Impact concerns in which teachers are focused on how the innovation affects their students, how they might adapt the innovation to their particular circumstances in order to improve it, and – quite rarely – how they might coordinate their actions with those of their colleagues).

Hall and Hord proposed that, although teachers' primary concerns might progress through the stages over time, going from Self, to Task, to Impact concerns, they would likely do so only under ideal conditions in which the innovation fit the school context, the

leadership fully supported the innovation, and the change process was supported. They noted that such conditions might not generally prevail, and that instead, some teachers would remain with high levels of Management concerns or even regress to Self concerns; some educators would be expected also to have simultaneously high levels of Self and Refocusing concerns – indicating resistance to the program. The especially useful aspect of Hall and Hord's model is its capacity to categorize the types of concerns teachers have and inform the ways in which educational leadership might respond to them to facilitate implementation. For example, Hall and Hord emphasized that all individuals confronted with change experience Self concerns; therefore, they encouraged organizations seeking to implement an innovation to address these concerns directly while being sympathetic to them, rather than treating them as unjustified or irrelevant.

The model is not without a few limitations, however. There is some debate as to the number and nature of the stages of concern, and not all researchers have verified the original seven stages (Anderson, 1997; Cheung, Hattie, & Ng, 2001). Higher order levels of concern are proposed to be related to increasing levels of effectiveness in using the innovation, and therefore improved student outcomes (George et al., 2000), but this particular claim has not been evaluated in the preventive field. Such limitations give rise to the need, within this particular study, to assess whether teacher concerns in this context conform to the seven-stage model, whether teachers' concerns, in fact, change over time, and whether they are related to variations in student outcome.

Lynchpins and Gears:

A Proposed Model of Teacher Concerns and Student Outcomes

The discussion thus far has elucidated some of the many ways that teachers can affect student outcomes in preventive interventions, namely, through the timing, dosage, and quality of their curriculum delivery, through their "readiness" to enact a program, and through the environment they establish in their classrooms (which may or may not support program principles). These teacher-related processes can, when functioning well, facilitate the operation of the change mechanisms described in the Causative Theory section, thereby contributing to improved student outcomes. What follows next is a specification of the varied and indirect pathways through which different types of teachers' concerns might ultimately influence student behavior. The Greenberg et al. model is used to organize this discussion, as illustrated in Figure 3.

Briefly, and as suggested by the previous discussion, there are three primary implementation processes in which teacher concerns might play an important role: in the planned intervention (through teacher concerns' effects on dosage, timing, and their quality of delivery), in the planned intervention supports (more directly, as teachers' concerns are an indication of their readiness to implement a program), and in the teacher characteristics operating classroom context that influence program implementation (of which teacher concerns might be an important component).

Specifically, within the planned intervention, there is evidence to suggest that different types of teacher concerns profiles would be associated with different amounts of dosage and quality of delivery. For example, teachers who express primarily Self concerns might have difficulty delivering the curriculum as planned, with their concerns

that they do not know enough about SEL theory, or that delivering the intervention might have a negative impact on their own professional status (through, for example, taking time away from purely academic subject instruction). Their dosage and quality of delivery might therefore be expected to suffer. Similarly, when compared to teachers with Impact concerns, teachers with primarily Management concerns, because they are likely mostly focused on delivering the basic curriculum, might be expected to have acceptable execution of lessons, but less frequent guided practice of new prosocial behaviors, and fewer "teachable moments" within the school day that would otherwise encourage generalization of SEL skills. On the other hand, teachers with higher order concerns might be expected to be especially invested in maximizing the curriculum's relevance to students, and might direct their energy to finding numerous opportunities during the school day to help their students practice fledgling SEL skills, and would commit to delivering as much of the curriculum lessons as possible. Therefore, it seems reasonable to expect that students in classrooms with teachers expressing higher order concerns might make more gains in SEL skills than would their peers with teachers who have lower order concerns. In this aspect of the model, the impact of these concerns might be mediated by the teacher's dosage, so this variable will be included in this study's analyses as a covariate.

In the second Greenberg model component, planned implementation support, teacher concerns can be seen as a reflection of the readiness a teacher feels to carry out a curriculum in his/her classroom (Hall & Hord, 2006). In Hall and Hord's work, educators who express primarily lower order concerns (such as Awareness, Information, Personal, and Management) would be expected to feel less ready to incorporate an

innovation into their teaching strategies, while teachers who express higher order concerns (such as Consequence and Collaboration) would be expected to feel fluent enough in the program to want to maximize the program's effects both within their own classroom and within the school or district. Hall and Hord frequently discuss how leadership can elicit teachers' feelings and help them resolve lower order concerns so that they feel more prepared to implement the new program. In this model, then, it would be expected that individuals with higher order concerns (or, more 'readiness') would be more adept at program implementation than those with lower order concerns (or, less 'readiness'), and that their students' outcomes would reflect that level of competence and preparedness.

Finally, teacher concerns are proposed to play a significant role in influencing the contextual, classroom climate in which the program is implemented[2]. A student will likely have a different experience of the SEL curriculum and the classroom context when teachers' concerns about it are more supportive or less supportive. In an SEL program, the teacher models for the class how important SEL skills are, by enacting strategies him/herself, by frequently reinforcing prosocial classroom behavior and program principles, and by fostering a supportive and participatory classroom atmosphere. A teacher's concerns could profoundly affect those behaviors. Students might pick up on a teacher's primarily Information or Awareness concerns in the ways that he seems unsure of the point of lessons, seems uncomfortable facilitating skills practice, and treats prosocial behavior as an important topic only during SEL lesson time. They might also respond to a teacher's Management concerns, if those thoughts and perceptions were to

---

[2] It is likely also true that a teacher's concerns are influenced by the classroom climate. This possibly important pathway is not discussed at length here but should be considered while interpreting the results of this correlational study.

result in the lesson feeling pressured, or the teacher regularly skipping SEL lessons or skills practice in order to fit in more academic instruction time. On the other hand, the climate of the classroom of a teacher with Impact concerns about the curriculum might be experienced by students as quite different: teachers with these concerns might be expected to fulfill the role of SEL skills model, to support students' skills practice in varied settings, to prioritize the curriculum within the school day, and to establish a participatory classroom based on SEL principles. Because of the way that teachers concerns could be reflected in the classroom climate and context, in this aspect of the model, again, it is expected that teachers with higher order concerns will lead classrooms of students with greater improvements in SEL skills than their colleagues expressing lower order concerns.

Current Study Aims

The foregoing sections suggest that a large number and variety of variables might impact the relationship between teacher concerns and student outcomes. Ideally, these variables would be available for entry in this study's analyses, so that models proposing mediating and moderating and direct effects might be tested. However, there is no published research that makes explicit the links between teachers' concerns and student outcomes in a preventive intervention, nor is there any study examining how those relationships might change over time, especially in a low-income, highly challenged school district. The purpose of this study, therefore, is to explore whether there is any broad, detectable relationship between students' outcomes and teacher concerns; should relationships be found, they might suggest important topics of future studies, and would

contribute to knowledge and practice in an area where there are many assumptions but little empirically based understanding.

The following analyses will focus on how different profiles of teacher concerns are related to student outcomes over a two-year period of program implementation. Findings from these analyses could not only bolster the ability of school districts to justify resources spent on teacher training when introducing an educational innovation, but they may also help them identify what form that training might take and what function it might serve. More importantly, however, this process could illuminate a small portion of the "black box" of preventive programming by answering questions to which answers are yet unknown. In this way, the preventive intervention field can continue to elucidate the mechanisms necessary for program success.

In general, based on the discussion of the theoretical model above, it is expected that students' outcomes will vary by their teachers' concerns: those in classrooms led by teachers with higher order concerns are hypothesized to show greater improvements in SEL skills than their peers in classrooms led by teachers expressing lower order concerns. It may be that teachers' data do not yield such a wide variety of concerns, in which case, it is still hypothesized that teachers with relatively higher levels of concerns will lead classrooms with better student outcomes than those with relatively lower levels of concerns. Because the current dataset is longitudinal, this study aims to explore two other questions related to this basic hypothesis. It will examine whether teachers' concerns change in any systematic way over the course of two years of program implementation. It will also explore the effects on student outcomes of exposure over time to teachers with different types of concerns profiles, thereby answering questions

about how benefits might accrue to students who are assigned to teachers with higher level concerns two years in a row, or to how a teacher with lower level concerns might impact students who had experienced one year of the program delivered by a teacher with higher level concerns (and vice versa), and whether students who worked with teachers with low levels of concern two years in a row demonstrate worse outcomes than their peers.

The proposed relationships between teacher concerns and student outcomes are also predicted to be influenced in some way by certain student characteristics, such as gender and socioeconomic need. Though it is not the goal of this study to specify or examine the nature of this influence, previous studies have found that teachers and students rate the social skills of males and females quite differently (Chaplain, 2000; Taylor, Liang, Tracy, Williams, & Seigle, 2002). Furthermore, studies demonstrating the relationship between increasing financial need and decreasing social and emotional skills (Clements, Reynolds, & Hickey, 2004; Pellegrini, 1985) suggest that, for the most economically and socially disadvantaged students, interventions must be particularly intense in order to counterbalance the cumulative effects of multiple sources of risk and the strong forces working against program principles in these students' lives. Therefore, to control for variability among teachers' and students' ratings of social skills that can be accounted for by gender and SES, and thereby maximize statistical power to detect the possible effect of teacher concerns on student outcomes, a female gender indicator and students' free lunch status will be entered into all analyses where these are found to correlate significantly with student outcomes.

METHOD

Data for the current study were collected as part of a longitudinal, action-research project evaluating the impact of an SEL curriculum, which was delivered in part using Hallmark Corporation's video series, *Talking with TJ* (Dilworth, Mokrue, & Elias, 2002). The video program was originally designed to prevent youth violence among elementary school children and emphasizes teamwork and group planning, as well as appreciation of individual and group differences. The SEL curriculum in this study also targeted a broader range of social and emotional skills, as discussed in the introduction to this study, and generally sought to increase prosocial behavior and effective anger management, improve home–school partnerships in regards to SEL skills, and foster literacy (Romasz, Kantor, & Elias, 2004).

Participants and Setting

Approximately 2,334 (or 90.43 percent of) second-, third-, and fourth-grade students attending 10 elementary schools in a disadvantaged, urban school district in central New Jersey participated in this study during the 2000–2001 and 2001–2002 school years[3]. The ethnic composition of the sample was approximately 70 percent African American and 28 percent Latino. Fifty-one percent of the sample was male, and the average age of the participants was 7.8 years during the 2000–2001 academic year. Approximately 67 percent of the sample received free or subsidized lunch, and the district was classified by the state as "special needs" because of its underperformance relative to its suburban peers, as well as its high rates of poverty and problem behavior

---

[3] The program was implemented in the second and third grades in the 2000–2001 academic year, and was implemented in the second, third, and fourth grades in the 2001–2002 academic year. In the second year of the study, most third- and fourth-grade students had participated in a TJ program previously, while the second-grade students were new to the curriculum.

among students. For example, only 42 percent and 43.5 percent of elementary students in

this district were able to demonstrate proficiency in their grade-level mathematics and

language arts assessments, respectively (Tarr, 2001). This special needs designation

allotted extra state funding to this district in order to improve its services to students; that

support contributed to the implementation of the SEL program studied here.

Procedure

Because *Talking with TJ* was implemented in the school district as part of its

policy and mandate, passive consent for study participation was obtained from students'

guardians through letters sent home prior to each school year informing them of the

nature and purpose of the project. Guardians were able to deny consent for student

assessments by submitting a mail-in form or contacting the district by telephone;

approximately five adults did so each year. No incentive for students or their families

was offered for participation, but teachers were paid at an hourly rate for their completion

of assessments of students on their own time.

Intervention Program

The current project employed the Social Decision Making / Social Problem

Solving (SDM/SPS) program (Dilworth et al., 2002; Elias & Bruene-Butler, 2005),

adapted for an urban population via the multicultural *Talking with TJ* series (Hallmark

Corporate Foundation, 1994). The SDM/SPS approach helps students develop three

empirically supported skill-sets – peer-acceptance and cooperative work, emotional

recognition and monitoring, and problem-solving and decision-making – and apply them

in a variety of contexts. Students acquire skills through structured lessons and practice

using them in a number of exercises tailored for generalization. The curriculum

examined in this project combines both programs but will be called *Talking with TJ* in the interest of simplicity and consistency with the name by which the program was known in the district.

Talking with TJ employed a TVDRP (television, discussion, rehearsal, and guided practice) format, which has been found to maximize children's learning in SEL programs (Elias & Tobias, 1996). Competencies such as listening, empathy, recognizing one's emotions, problem-solving, cooperation, and self-control were addressed. The videos consisted of three main story themes involving an adolescent Black woman who responds to students' call-in questions on a radio program. Each story line was explored through four or five units in each academic year (see Table 2, Table 3, and Table 4 for full descriptions of the curricula); second and third grade curricula focused on teamwork, while fourth grade curriculum focused more on conflict resolution (Romasz et al., 2004). Each unit included a video clip, power phrase (slogan), teamwork tips, family activity project, and a corresponding comic book. In addition, each unit included at least two activities that were designed to help students apply their SEL skills in different social situations. A final session allowed for review of previous lessons and a culminating group activity. Lessons and competencies were also reinforced through visual aids displayed in the classroom (e.g., posters depicting power phrases). More importantly, teachers were trained to incorporate the language and content of the curriculum in their daily classroom management techniques and to encourage students to apply the skills they learned in relevant contexts (e.g., group projects, class debates, student conflicts). In particular, teachers were instructed to integrate the *Talking with TJ* teamwork tips into the

pedagogy of their daily literacy block lessons and to highlight themes in literature that related to teamwork, cooperation, and other "TJ skills."

At the beginning of the school year, classroom teachers were provided with all curriculum materials and trained in their implementation in two, two-hour sessions. These were led by one of the developers of SDM/SPS, the district's SEL coordinator, and two district staff development personnel; the district's literacy coordinator provided significant input, as well. Trained graduate and undergraduate assistants provided optional structural support for teachers, including assistance in lesson preparation and delivery, and were often present during lesson time; they also completed observation summaries of program delivery after each visit. Teachers implemented their grade's curriculum over a period of approximately 4 months during their health periods; during this time, teachers were expected to use TJ concepts in everyday classroom situations, prompt the use of "TJ Skills," and review the video clips, comics, and other lesson components as reminders, when relevant.

This SEL curriculum was implemented in accordance with district and state standards in order to maximize administrative support for its implementation (Romasz et al., 2004). Further, a multi-level support system was put in place, with district and school-level personnel dedicated to the implementation of the *Talking with TJ* program. This support system included external graduate and undergraduate consultants from a university-based research team, which was able to form ongoing supportive relationships with seven of the 10 schools.

Measures

Data in this project were collected from several sources: district records, student self-report measures, teacher self-report measures, and teacher assessments of student behavior.

One of the primary aims of the *Talking with TJ* program was the development of students' social and emotional skills; in order to measure this process within the budgetary and time constraints of the current project, one student-rated measure of behavior and attitudes (EQ-i:YV[s]) and one teacher-rated measure of student behavior (SSRS) were used. Neither of these measures was specifically designed to assess SEL skills; instead, they measure constructs closely linked to the development of those skills: emotional intelligence (EQ-i:YV[s]) and social skills and problematic emotional behavior (SSRS). Both measures were included in the analyses to provide more than one perspective on student outcomes. These scales are described in detail below.

BarOn Emotional Intelligence Inventory: Youth Version – Short Form (EQ-i:YV[s])

The EQ-i:YV is the most widely used measure of children's emotional intelligence; the short form of the measure was used in this project to reduce the burden of questionnaire completion on young students. Items on the EQ-i:YV(s) ask children to rate the degree to which experiences related to many SEL skills – including recognition of feelings in self and others, anger management, prosocial actions, and problem-solving – are true of them (Table 5 provides a list of items on the measure, arranged by subscale). The EQ-i:YV(s) was completed at the beginning of each school year to control for any baseline differences in SEL skills.

The EQ-i:YV(s) yields a total emotional intelligence score as well as four standardized subscale scores: intrapersonal, interpersonal, adaptability, and stress management. In addition, the EQ-i:YV(s) provides a positive impression scale that can be used to adjust the standardized subscale scores (Bar-On & Parker, 2000). Normative testing on the EQ-i:YV was conducted using a sample of approximately 10,000 children and adolescents (including a sub-sample of approximately 2,500 7- to 9-year-olds). Separate norms were developed for males and females. Scoring for total emotional intelligence and for each of the subscales is based on a standard score of 100 with a standard deviation of 15. Interpretation of scores is based on the following categories:

130 +: Markedly High, atypically well-developed emotional and social capacity

120–129: Very High, extremely well-developed emotional and social capacity

110–119: High, well-developed emotional and social capacity

90–109: Average, adequate emotional and social capacity

80–89: Low, underdeveloped emotional and social capacity with some room for improvement

70–79: Very Low, extremely underdeveloped emotional and social capacities with considerable room for improvement

Less than 70: Markedly Low, atypically impaired emotional and social capacity (Bar-On & Parker, 2000, p. 18)

The scale's psychometric properties make it appropriate for use with this age of respondent. Among the different subscales on the EQ-i:YV(s), internal consistency for children ages 7–9 ranged from 0.65 to 0.81. Internal reliability for the subscales generally increased with the age of the respondents; for example, older adolescent responses to these subscales yielded internal reliability coefficients of between 0.75 and 0.87. Test–retest reliability for the short version scores generally fell between 0.81 and 0.88 (Bar-On & Parker, 2000). Scores on the EQ-i:YV correlate significantly with scores on the full version of the scale. Studies have also found a moderate to strong negative

correlations between EQ-i:YV subscales and those of the Connor's Adolescent Self-Report Emotional Problems Scale (e.g., a measure of problems relating to family, emotions, conduct, cognition, anger control, and hyperactivity) (Bar-On & Parker, 2000).

Social Skills Rating Scale (SSRS)

The SSRS (Gresham & Elliott, 1990) helps teachers identify students at risk for social behavior difficulties and poor academic performance. Its three scales include social skills, problem behaviors, and academic competence (Table 6 provides a list of items on the SSRS, arranged by scale). The social skills measured by the SSRS among elementary school students include cooperation, assertion, and self-control. The problem behaviors assessed are externalizing, internalizing, and hyperactivity. Each of these scales yields a score standardized by age and gender. Finally, teachers are asked to rate each student's academic competence on a five-point scale (lowest 10 percent, next lowest 10 percent, middle 40 percent, next highest 20 percent, highest 10 percent). In this study, teachers were paid for their completion of these surveys for each of their students.

The psychometric properties of the SSRS suggest it to be a valid and reliable measure of students' social skills and problem behaviors. The internal consistency of the overall SSRS has been found to be high, with a Cronbach's alpha of 0.96. The internal consistencies for the various subscales ranged from 0.83 to 0.94. Correlations among the scales of the SSRS were found to be highly consistent in a theoretically expected pattern. For instance, social skills subscales correlated positively with one another and negatively with each of the problem behavior subscales. Moreover, the test–retest reliability measure was also in the high range, with Person's coefficients in the range of 0.68 to 0.87. External validity of the teacher form of the SSRS with corresponding scores on

Achenbach's Child Behavior Checklist ranged from 0.75 (externalizing behavior score)

to 0.81 (total score) (Gresham & Elliott, 1990).

Stages of Concern Questionnaire (SoCQ)

A 24-item version of Hall and Hord's pencil-and-paper SoCQ (Hall, George, &

Rutherford, 1977) was used to assess teachers' concerns about the *Talking with TJ*

curriculum. The full, 35-item version has good internal consistency (alphas range from

0.64 to 0.86) and test–retest reliability (ranging from 0.65 to 0.86) (Hall & Hord, 2006).

The full version was reduced to 24 items following a request from the district to shorten

the length of time teachers were involved in completing surveys; shortening the measure

was also done to increase the likelihood that teachers would participate in data collection.

Because the program was already implemented in the schools, many of the items

measuring stages 0 and 1 were irrelevant; therefore, three (of five) items from both of

those stages were removed. One item from each set that assessed stages 2 through 6 were

also eliminated from the survey before it was distributed to teachers; items chosen for

deletion were ones that did not significantly affect scale scores when eliminated, based on

prior internal consistency studies. The final list of items, organized by stage subscale, are

listed in Table 7. Teachers could choose responses to items that ranged from 0 to 5, with

0 indicating that they thought the question was irrelevant, 1 indicating that it was "not

true of me," and scores 2 through 5 indicating increasing levels of applicability for the

teacher.

Traditional interpretation of the SoCQ typically employs a process similar to that

used in IQ tests. Raw scores on each of the seven SoCQ stage subscales are converted to

percentile scores; these percentile scores are then plotted for each individual teacher on a

graph that depicts the intensity of each concern stage relative to others (Hall et al., 1977).

Just as a profile plot of an IQ test might indicate strengths in processing speed and spatial

perception, profile plots for the SoCQ indicate which types of concerns are most intense

for a specific teacher. Though many educators express primarily high or low concerns at

a given time of assessment, it would not be unusual for a teacher to express both high and

low concerns – for example, from both Personal and Refocusing stages; such a pattern

tends to indicate resistance to program implementation (Hall & Hord, 2006). Because

previous research has not always confirmed Hall and Hord's model, teachers' responses

to the SoCQ in this study were entered into cluster analyses to determine empirically the

types of concerns profiles reflective of this particular sample.

Implementation Data

The intervention curriculum was organized into discrete teaching components. In

the spring of students' second-, third-, and fourth-grade years, teachers participated in a

survey assessing their level of satisfaction with the intervention program. As a part of

this survey, teachers were asked to report the number of curriculum components they

completed over the school year, as well as their perceived effectiveness. The percentage

of components (out of the total possible available for implementation) teachers reported

to have implemented in a student's classroom was used as a measure of intervention

dosage. Teachers drew their responses from notes they recorded after each lesson and

unit, as well as their overall recollections. Such ratings have been found to be reliably

related to those made by independent observers (e.g., Shochet et al., 2001). In this

portion of the survey, teachers were asked other questions about their feelings towards

and implementation of *Talking With TJ*; these items are listed on the right-hand side of

Table 8 and were used in this study to help interpret the characteristics of some of the teacher concerns clusters.

Demographic Information

Information regarding student's age, gender, ethnicity, and socio-economic (free- or reduced-price school lunch) status was collected from district records. Students' free-lunch status was coded as a 3-point ordinal variable, with 0 indicating that the student had never applied to the program or their application for free or reduced lunch services was not approved, a 1 indicating that they qualified for reduced price lunch, and 2 indicating that they qualified for free lunch. Students' gender was coded to indicate female, designated as a 1 (as opposed to a 0 for males).

<div align="center">

Student Survey Administration

</div>

All student-report measures were administered before and after the intervention. Pairs of trained research assistants formed smaller groups (of about seven or eight students) within each classroom. Each assistant administered the survey to one group in two, 30-to-45–minute sessions. Before beginning the questionnaires, the survey administrators read the following statement:

> Hi, my name is … I'm a student from … and I will be asking you to fill out some questionnaires today. The information you fill out on these questionnaires will be looked at by me and some other students at … who are interested in finding out what kids your age think about different things. I will not show your completed questionnaires to your teacher or other students in your class, so you can be honest when you fill them out. When you're filling out these questionnaires, please remember this is not a test, and there are no right or wrong answers. Are there any questions? Let's get started.

Questions were read aloud to each group of students. Students were asked to keep their answers to themselves and not to peek at their classmates' answers. Completed questionnaires were collected. Students were informed that their participation was

voluntary. Alternate activities were provided for those students who chose not to participate as well as those whose guardians had refused consent.

Teacher Survey Administration

Implementation and concerns data were collected through surveys administered to classroom teachers. At the close of the program, teachers completed brief questionnaires rating their overall satisfaction with the curriculum, the number of program components they completed, and perceived effectiveness of each of the lessons.

They also filled out the SSRS two weeks before and two weeks after the program for each student during their personal time. For that activity, they were reimbursed at the district's hourly rate at the time of assessment.

RESULTS

This study used data from four assessment time points: at the beginning and end of the 2000–2001 school year and at the beginning and end of the 2001–2002 school year (a.k.a., T1 and T2 [Year 1] and T3 and T4 [Year 2]). Student and teacher ratings of student behavior were collected at all four time points[4], while surveys of teachers' concerns and implementation data were collected at T2 and T4 only.

A series of analyses were conducted to explore the questions of interest in this study. First, teacher concerns types for each year were created empirically by grouping teachers according to their responses to the SoCQ in cluster analyses. Patterns of these clusters by school and over two years of the study were examined, though the *n* was too small to enter these data into statistical analyses. Teacher concerns clusters were then used in analyses of variance and covariance in students' gain scores to determine the existence within each year of the study of relationships between different types of teachers' concerns and students' outcomes (and, where there were relationships, the size of the possible effect of teacher concerns on those outcomes). These analyses were then repeated using multilevel modeling in order to provide a more conservative and accurate estimate of the possible relationships among teacher concerns clusters and student outcomes. Finally, a variable representing a two-year pattern in teacher concerns was created for each student, and this variable was used in analyses of variance and covariance in students' two-year gain scores to determine whether their might be a cumulative effect of teacher concerns over time (and the size of this possible effect).

---

[4] Teacher ratings of students who were in both years of the program occurred at three points (T1, T2, and T4), with T2 ratings serving as 'preassessments' for the second year). Students new to the program in the second year were assessed by their teachers at T3 and T4; for the purposes of analyses, T3 and T2 teacher ratings of students were combined into "Year 2 preassessment" scores and treated as if they had occurred at the same point in time.

These analyses were not repeated with multilevel modeling techniques because of the formidable challenges in executing and interpreting multiple membership models (which would have been required to analyze a database comprised of students who stay with the same teacher and school, students who change teachers but not schools, and students who change both teachers and schools over the course of two years) within this study setting.

Teacher Concerns Clusters

In order to determine the profiles of teacher concerns within the two years of this study, responses to the SoCQ were entered into hierarchical cluster analyses procedures using SPSS 14.0. First, each teacher's responses to items within each "stage-scale" were averaged to yield his / her mean level of concern for six stages of Hall and Hord's model[5]. These mean concern levels for each stage were then standardized (transformed into z-scores) within each teacher, in order to produce relative rates of concern for each individual. This strategy eliminated response effects (a distortion caused by people who tend to respond exclusively positively or negatively [Hair & Black, 2000]) and approximated the methods used by Hall and Hord (2006; Hall et al., 1977) to examine individual SoCQ results. These standardized scores were then treated as interval data and entered into a hierarchical cluster analysis procedure using Ward's method because doing

---

[5] Scores from Stage 0, 'Awareness,' were left out of all analyses for several reasons: first, only two of the original five items from the subscale on the SoCQ had been included in the survey (namely: 'I don't even know what the innovation is' and 'I am not concerned about this innovation'), and these items did not appear to assess the same construct, as demonstrated by the low correlation of teachers' responses to them (Pearson's $r = 0.11$ in Year 1 and 0.00 in Year 2, both ns); second, by and large, alpha reliability coefficients for the whole Stage 0 subscale in studies – other than Hall and Hord's original 1977 work – have been quite low (ranging from 0.12 to 0.45 – indicating problems with its ability to measure a single underlying construct [Cheung, Hattie, & Ng, 2001]); and third, teachers were required to attend training workshops and teach TJ in their classrooms during both years of this study, and therefore necessarily had at least a basic level of Awareness of the curriculum. Finally, Stage 0 scores did not differ significantly among teacher concerns clusters when they were included, and therefore often confused the interpretation of cluster characteristics. Therefore these scores were excluded from the cluster analyses, as suggested by Hair and Black (2000) in these situations.

so has performed most reliably with finding commonalities among data similar to that yielded by the SoCQ (Overall, Gibson, & Novy, 1993; Ziberna, Kejzar, & Golob, 2004). A separate cluster analysis using the same methods was conducted for each year of the study in order to facilitate analyses of longitudinal trends in teacher concerns.

The data were described at an adequate level of homogeneity by four clusters in each year of the study; the characteristics of these clusters – including their mean ratings for each stage scale and other relevant attitudinal and dosage items from the teacher surveys – are summarized in Table 8. Those other items included the average number of curriculum elements delivered by the teachers within each cluster (i.e., *dosage*), as well as teachers' mean ratings of the effectiveness and value of TJ lessons, the degree to which the lessons helped teachers and students interact with each other, and the extent to which they used TJ principles at times other than during curriculum delivery. These extra items were sometimes used to clarify cluster characteristics; for example, with the Consequence & Refocusing concerns cluster in Year 1, dosage and teacher ratings provided suggestions as to the characteristics of teachers within that group. Their dosage was average, but they reported some reservation about the program's effectiveness, as compared to other clusters. Because it can also be helpful to conceptualize differences among the teacher concerns clusters through visual aids, bar charts of the mean responses to each stage subscale within clusters from both years of the study appear in Figure 5 through Figure 12.

Shorthand names for each cluster whose concerns followed a "classic" Hall and Hord pattern were taken from their work; shorthand names for clusters whose concerns patterns had not been specifically studied by Hall and Hord were left as a neutral

description of the one or two strongest concerns levels. In Year 1, for example, the first cluster identified Information and Personal stage concerns most strongly, and was therefore called *Self* in reference to Fuller's original work; the second cluster identified *Consequence & Refocusing* concerns most strongly, and was referred to accordingly; the third cluster identified Consequence and Collaboration concerns most strongly, and was therefore called *Impact* (because Hall and Hord had identified and studied this pattern); and the fourth cluster identified Personal and Collaboration concerns most strongly, and was therefore called *Self & Staff*. In Year 2, the first cluster identified *Management* concerns most strongly, and its name was specified by those concerns; the second cluster reported strongest concerns in the Personal, Consequence, and Collaboration stages, and was therefore called *Self & Impact*; the third cluster identified *Consequence & Refocusing* concerns most strongly and was, as in Year 1, termed accordingly, and finally, the fourth cluster identified Consequence and Collaboration concerns most strongly and was, as in Year 1, called *Impact*.

It may be evident that, from this process and from the summaries in Table 8 and Figure 5 through Figure 12, two cluster types appeared in both Year 1 and Year 2, while both years had two clusters unique to those points in program implementation. Specifically, in the first and second years of the study, there were clusters that reflected primarily what Hall and Hord referred to as an "impact concerns profile" (2006, p. 150) – namely, that the teachers endorsed concerns primarily in the Consequence and Collaboration stages, with lower intensity in the Refocusing stage concerns. The lower intensity of Refocusing relative to Consequence and Collaboration is important in Hall and Hord's model because, when it is of higher intensity than those stages (a

phenomenon Hall and Hord describe as *tailing up*), it typically indicates a feeling of resistance. While speaking to teachers who exhibit tailing up, one might hear them say, "I have ideas about how we could do this better" (Hall & Hord, 2006).

That tailing up pattern was found in a cluster type that appeared in both Year 1 and Year 2 of this study, in which the highest concerns endorsed were in the stages of Consequence and Refocusing. This pattern was different than the classic resistant profile identified by Hall and Hord, in which teachers tended to express high Personal concerns along with a tailing up in Refocusing concerns. They described that profile as a "warning sign" to leaders and facilitators of organizational change (Hall & Hord, 1987, p. 292). In this study, the resistance pattern took a slightly different form, but may have expressed the same kind of warning. In both years, for example, these clusters expressed relatively low ratings of the curriculum and its ability to help teachers. Teachers within these clusters, because they endorsed both Consequence and Refocusing concerns, might have felt doubtful about whether the program was helping students and had ideas about how they might achieve the program's goals through different means.

Each year also yielded clusters unique to that point of implementation. In Year 1, for example, one cluster seemed to represent teachers who were primarily concerned with Self concerns from the Hall and Hord model: they responded most strongly to items within the Information and Personal stages. That this cluster appeared in Year 1 but not Year 2 would be consistent with Hall and Hord's developmental model, which proposes that earlier years of a project will be implemented by individuals who have primarily lower order concerns, but that those individuals' concerns will progress to higher order concerns over time, given adequate support. That prediction would also be supported by

the presence of a cluster profile unique to the second year of this study, in which teachers primarily responded strongly to items in the Management stage subscale. Notably, however, this cluster is characterized by a tailing up in Refocusing stage concerns, which might have indicated some resistance towards the curriculum. That idea that is supported by the Management cluster's relatively low dosage rate and low ratings of the curriculum and how well it helped teachers and students. Teachers within this cluster might have been saying: "The demands this curriculum places on the school day concern me, and I have ideas about how we can do this better."

Two clusters that were unique to both Year 1 and Year 2 also did not commonly appear in Hall and Hord's work. The last cluster in Year 1, for example, endorsed relatively high concerns in both Personal and Collaboration stages. This unique profile was also typified by low concerns in both Management and Consequence stage subscales, and a tailing down in the Refocusing stage; as a result, it likely indicated general support for the program (an idea consistent with their relatively high ratings of the lessons' effectiveness), but perhaps also concerns about the level of support from administration and other teachers, as well as a wish for reassurance that the curriculum's implementation would have minimal negative impact on the teachers themselves. This cluster pattern reappeared to some extent in Year 2, where Consequence concerns were endorsed highly, in addition to Personal and Collaboration concerns. Again, teachers within this cluster seemed relatively supportive of the intervention – as indicated by relatively high rates of dosage and strong positive ratings of the effectiveness of the lessons and their ability to help teachers. Such clusters, in which *both* Personal- and Impact-level (other than Refocusing) concerns are endorsed strongly, were not specifically discussed in Hall and

Hord's work. The implications of their existence within this dataset will be explored further in the Discussion section.

Cluster membership tended to vary by school, as detailed in Table 9 and Table 10. In Year 1, some schools were more likely to be comprised of teachers endorsing primarily lower order, Self concerns (e.g., School 7 and School 8), other schools were more likely to consist of teachers endorsing Hall and Hord's ideal Impact concerns profile (e.g., School 2 and School 4), and still other schools had a predominance of teachers endorsing a Consequence & Refocusing pattern (e.g., School 1). These differences were supported by an uncertainty coefficient of 0.30 ($p = .05$, meaning that when school was used as a predictor, variance in teacher cluster membership was reduced by 30 percent). In Year 2, certain schools were more likely to consist primarily of individuals with Management concerns (e.g., School 7 and School 8), while others consisted primarily of teachers with a more resistant concerns pattern (e.g., School 4 and School 5). These differences were also significant, as indicated by an uncertainty coefficient of 0.26 ($p < .001$, indicating that when school was used as a predictor, variance in cluster membership was reduced by 26 percent).

A comparison of Table 9 and Table 10 provides some evidence that teacher concerns progressed over time at the organizational level. School 3, for example, was typified by Consequence & Refocusing concerns during the first year, but by Impact concerns in the second. School 7 and School 8, which were both typified by Personal concerns in the first year, were comprised primarily of teachers with relatively higher order (Impact, Consequence & Refocusing, and Self & Impact) concerns during the following year. Other schools, such as School 6 and School 9, did not have a dominant

type of teacher concerns during the first year, but were typified by Impact concerns in the second year. Such patterns in the data suggest that organizational-level factors may have some impact on teachers' concerns within some schools.

Student Outcomes by Teacher Concerns Clusters

Students' responses to the EQ-i:YV(s) at each of four points of assessment were summed within subscale and standardized according to gender and age using published norm tables (Bar-On & Parker, 2000)[6]; gain scores in the standardized subscale scores were completed for each year by subtracting the preassessment subscale scores from the postassessment subscale scores. Missing data within a subscale was only imputed (as the mean of the student's other responses to subscale items) when more than half of the items were completed within the subscale. This process generated four gain scores for each year of the study in intrapersonal, interpersonal, stress management, and adaptability skills for approximately 960 students in Year 1 (range: from 953 for intrapersonal subscale to 964 for interpersonal scale) and approximately 1,420 students in Year 2 (range: from 1,413 for adaptability subscale to 1,426 for interpersonal subscale). Approximately 700 of these students completed the EQ-i:YV(s) at all four assessment points.

Teacher assessments of students on the SSRS were similarly treated, resulting in two gain scores for each year of the study in the areas of social skills and problem behaviors. Each SSRS scale consisted of three subscales (i.e., assertiveness, cooperation,

---

[6] Approximately a dozen second graders in each year of study were 6 years old at assessment; they were treated as being 7 years old for the purposes of standardizing EQ-i:YV(s) scores because Bar-On did not norm the scale with children younger than that age and it was important that they be retained in the dataset so it was as representative of this population as possible. It was reasoned that these 6-year-old second graders were at approximately the same point developmentally as their 7-year-old classmates and their responses could be standardized accordingly.

and self-control subscales comprised the social skills scale, and hyperactivity, externalizing, and internalizing subscales comprised the problem behaviors scale); data within subscales were imputed as the mean response to all other subscale items if no more than one item was missing within the subscale; scale scores were only computed if all of their constituent subscales were present (e.g., the problem behavior subscale score was computed only if the hyperactivity, externalizing, and internalizing subscales were valid). This process yielded gain scores for 1,045 students in Year 1 and 1,342 students in Year 2. Approximately 780 students were rated by teachers at three time points.

Not all of the students for which there were complete EQ-i:YV(s) or SSRS data could be included in the following analyses because of failure of teachers to return their SoCQs. In Year 1, while 672 students were led by teachers whose concerns cluster membership could be determined, 266 were not; students whose teachers submitted SoCQs rated themselves as improving less on the stress management (0.19 vs. 3.61 points, $F[1, 936] = 7.45$, $p = 0.01$) and adaptability (-0.87 vs. 2.02 points, $F[1, 936] = 4.77$, $p = .03$) subscales of the EQ-i:YV(s) than did their peers whose teachers did not return the survey. In Year 2, while 1,083 students were led by teachers who completed the SoCQ, 245 were not. Teachers who did not return the survey reported that their students lost points on the Social Skills scale of the SSRS (-3.45 vs. 0.43, $F[1, 1326] = 9.21$, $p = .002$) and gained points on the Problem Behavior scale (3.20 vs. 0.81, $F[1, 1326] = 5.15$, $p = .02$) , relative to the ratings of teachers who did return the survey. All other differences in ratings of student behavior between groups whose teachers did or did not complete the SoCQ were statistically equivalent, but caution should be exercised when interpreting some of the findings within the following sections because some

subsamples may not accurately reflect the larger population of students within this

district.

Both traditional – analysis of variance – and newer – hierarchical linear modeling

– techniques were used to examine students' gain scores over the course of the study.

The former were conducted because of their familiarity and ease of interpretation (as well

as their generation of effect sizes) and will be presented first in the following discussion.

The latter were employed because they control Type I error when violations of the

independence assumption are present (as they often are in data collected from students

who are nested within teachers, all of whom are nested within schools); results of

hierarchical analyses will be presented second.

Detecting Differences Through Analysis of Variance

There is some debate about how best to determine statistically whether and how

groups of individuals change in different ways over time (see, for example, discussions in

Rausch, Maxwell, & Kelley, 2003, and Weinfurt, 2000). To begin with, gain scores were

used as the dependent variable in all of the following analyses because they more

parsimonious and easily interpreted than are repeated measures of each assessment point

when the question of interest is how rates of change might vary among different groups

(Rausch, Maxwell, & Kelly, 2003; Weinfurt, 2000). The remaining question then was

whether to use ANOVA or ANCOVA with pretest a covariate. Including pretest as a

covariate in the model uses a degree of freedom (and thus reduces the test's power to

detect differences), yet it can account for a significant proportion of the random

variability in gain scores (as it did in each of the ANCOVAs reported in this study).

Therefore, ANCOVA using pretest as a covariate usually increases a test's power to

detect differences among groups in the remaining variability and has been described (in Weinfurt, 2000) as the test of choice in most pre-post design studies.

However, Weinfurt noted that ANCOVA using pretest as a covariate is inappropriate if the study design does not involve random assignment to groups *and* there are differences among groups at pretest. The purpose of an ANCOVA is to detect a difference among groups after removing the *random* variability due to a covariate. When that variability is no longer random – because it is related to group membership – removing it can result in misleading conclusions. Therefore, Weinfurt argued that ANOVA of gain scores is a better test in those situations as it still answers whether different groups have different rates of change over time, but does not force groups to be statistically equal on a measure on which they were unequal at the start.

As a result, tests reported here are ANCOVAs of the gain scores using pretest as a covariate, *unless* the pretest scores differed among teacher concerns clusters, in which case ANOVAs on the gain scores are reported[7]. Descriptive statistics of pretest scores by teacher concerns clusters for both years of the study, along with *F*-statistics for significant differences among group means, can be found in Table 11 and Table 12. Significant differences were found on the intrapersonal and interpersonal subscales of the EQ-i:YV(s) and the problem behavior scale of the SSRS in Year 1. No significant differences among students within different teacher concerns clusters were found at preassessment in Year 2 of the study. Therefore, all *F*-statistics reported in the following

---

[7] In actuality, even some of the ANOVAs on gain scores in this study were, in fact, ANCOVAs because covariates such as a female gender indicator, free lunch status, and teacher dosage were entered in the analyses where those variables were found to account for significant variance in gain scores. This discussion retained the distinction between ANOVA and ANCOVA for the sake of conceptual clarity. In all cases where students' pretest scores differed significantly among teacher concerns clusters, they were not entered as covariates into the analyses – whether they were ANOVAs or ANCOVAs.

were generated from ANCOVAs using the preassessment score as a covariate, other than

on those three (sub)scales in Year 1.

Year 1 Results

Descriptive statistics for students' gain scores on both self- and teacher-rated

measures during Year 1 are presented in Table 13. Most scores remained stable (or

dropped slightly) over the course of the year. Indeed, any change that occurred was not

large: the most any group changed from T1 to T2 was by gaining or losing approximately

5 or 6 points on a standardized, IQ-type scale (i.e., with a mean of 100 points and a

standard deviation of 15 points). An ANOVA of students' gain scores on the

intrapersonal subscale indicated a trend toward significant differences among teacher

concerns clusters in students' mean gain scores on this subscale ($p = .06$), but post hoc

tests with Bonferroni correction revealed no significant differences among groups[8]; for

reference, Figure 13 provides a depiction of the differences in mean gain scores on this

measure among different teacher concerns clusters. An ANOVA of differences among

teacher concerns clusters on the intrapersonal subscale found yielded no significant

effect. ANCOVAs, using T1 scores as a covariate, of the differences among teacher

concerns clusters in terms of mean student gain scores on stress management and

adaptability subscales yielded no significant differences. Table 15 provides details of the

F-tests yielded by these analyses. The overall implication from these tests is that, in Year

1, differences among teachers' concerns about the *Talking with TJ* program were not

related in a significant way to how students rated their behavior.

---

[8] It should be noted that, for reasons that are unknown, students with teachers who reported Self & Staff concerns in Year 1 rated themselves as 5 points higher in intrapersonal skills at the beginning of the year than did many of their peers; that the ANOVA detected a "near difference" among groups here may simply be an artifact of this group regressing to the mean over the course of the year – they reported a loss of approximately 7 points, while the mean loss for all students that year was approximately 3 points.

AN(C)OVAs for both SSRS scales – social skills and problem behaviors –

yielded significant differences among teacher concerns clusters in mean gain scores over

the course of Year 1 (again descriptive statistics and summaries of *F*-tests appear in Table

13 and Table 15; graphic depictions of these differences, in order to clarify trends for the

reader, appear in Figure 14 and Figure 15). Teachers with primarily Self & Staff

concerns reported that their students improved an average of 5.6 points in terms of

cooperation, assertiveness, and self-control, while teachers in other clusters reported little

change at all (this pattern was verified by post hoc analyses using Bonferroni correction).

These results varied according to both gender and free lunch status; female students were

rated, on average more than 2 points higher than their male peers on this measure, while

each increment of socioeconomic need (as measured by none, reduced, or free lunch

status) was related with a reduction of more than 2 points in teachers' ratings of their

students' gain in social skills. The η^2 for teacher concerns clusters' possible effect on

student outcomes was 0.045, indicating a small effect according to Cohen's (1977)

guidelines. A binomial effect size display (BESD) (calculation method from Weinfurt,

2000) determined that teachers who reported Self & Staff concerns viewed their students

as having improved 21 percent more over the course of the year than did teachers with

other concerns.

Teachers with both Consequence & Refocusing and Impact concerns reported

increases in problem behaviors among their students (by 5.2 and 3.4 points, respectively),

as opposed to teachers with Self & Staff concerns, who rated their students as having

maintained their levels of problem behaviors over the course of the year. This result

varied with free lunch status; each increment of increased socioeconomic need was

associated with teachers rating the student as having gained an additional point on the problem behavior scale. The η^2 for the possible effect of teacher concerns cluster on student outcomes was 0.023, suggesting another small effect. The BESD indicated that teachers who reported Impact and Consequence & Refocusing concerns viewed their students as increasing 15 percent more in problem behaviors over the course of the year than did teachers with Self & Staff concerns. These results imply that teachers who reported Self & Staff concerns reported a greater increase and social skills and no increase in problem behaviors over the course of Year 1, while other groups saw no increase in social skills and some increase in problem behaviors.

Year 2 Results

These analyses were repeated for data from both student- and teacher-rated measures from the second year of the study (although there were no differences among teacher concerns clusters on preassessments during this year, so all *F*-tests were generated by ANCOVAs of the differences among teacher clusters in terms of students' gain scores using their pretest scores as a covariate). Descriptive statistics of student gain scores on these measures are presented in Table 14, while summaries of *F*-tests of differences in mean group gain scores are presented in Table 16. Again, as with the first year of the study, even the largest changes in scores were small in magnitude, with the largest change a drop of approximately 5 points on the intrapersonal subscale of the EQ-i:YV(s). As with Year 1, most analyses of differences in group means on subscales of the EQ-i:YV(s) did not yield significant differences in Year 2; however, students in classrooms led by teachers expressing Management concerns rated themselves as having lost approximately 2 points on the adaptability measure, while students in classrooms

with teachers endorsing Consequence & Refocusing concerns reported having gained

nearly 3 points on that measure (Figure 17 provides a line graph to clarify these patterns).

This difference was confirmed as statistically significant by post hoc comparisons using

Bonferroni correction, though the effect size was quite small ($\eta^2 = 0.008$). This suggests

that students in classrooms led by teachers with Consequence & Refocusing concerns

rated themselves as gaining 9 percent more in adaptability skills over their peers in

classrooms led by teachers with primarily Management concerns.

An ANCOVA of the gain scores on the teacher-rated measure, the SSRS, using

pretest scores as a covariate (which were derived either from T3 ratings or T2 ratings, if

the latter were unavailable), indicated that there were significant differences among

student outcomes within different teacher concerns clusters on the social skills scale, and

a trend towards significant differences on the problem behavior scale[9]. Specifically,

teachers who expressed primarily Management concerns reported a decrease of nearly 4

points on the social skills scale in their students, in contrast to teachers expressing all

other types of concerns that year, who either reported that students' scores remained

stable or increased somewhat (these differences were supported by post hoc comparisons

using Bonferroni correction). These results varied by gender, free lunch status, and

dosage – in general, teachers who taught higher percentages of the TJ curriculum rated

their students as having lost fewer social skills, and they rated their female students as

having had less of a decrease on this subscale than their male students, and their less-

advantaged students as having lost more social skills over the course of the year than

their more-advantaged peers. The possible effect of teacher concerns clusters on student

---

[9] The lack of significant differences here may owe, in part, to the increased random variance introduced by using two different teachers to conduct the pre- and postassessments for the great majority of students during Year 2 (whereas they were completed by a single teacher during Year 1).

outcomes on the social skills scale was estimated by η^2 to be 0.025, which is again a small effect in Cohen's classification. This indicates that teachers endorsed primarily Management concerns rated their students as losing 16 percent more of their skills in assertion, cooperation, and self-control than did their counterparts expressing other concerns (Figure 18 provides a line graph to illustrate this pattern). Although the overall *F*-test indicated a trend towards significant differences among teacher concerns clusters on teachers' ratings of students' problem behavior, there were no significant differences among clusters detected by post hoc comparisons using Bonferroni correction.

Detecting Differences in Student Outcomes Using Multilevel Analyses

Because ANOVA techniques rely on the assumption that observations are independent of each other, and because it is widely acknowledged that the actions of students within classrooms and within schools are not independent of each other (i.e., they are likely to be more similar than those of students chosen at random, especially when students within a class are rated by a single teacher), the above statistical analyses may have inflated the possibility of Type I error. As a result, hierarchical, two-level linear modeling was used to examine how patterns in student change scores might differ according to class/teacher and/or school, in addition to teacher concerns clusters. Twelve models were run, in total: four for each year of the study on the change scores of the four subscales of the EQ-i:YV(s) and two for each year of the study on the change scores of the two scales of the SSRS (see Figure 4 for a depiction of the structure of these analyses).

HLM first partitions the variance in students' change scores into that related to school, that related to teacher, and that related to individual differences and other sources

of random error; it does this through the use of school and teacher indicator variables entered into a various levels in an *unconditional model* (unconditional because it uses no predictors related to the study hypotheses). Variability estimates (and *F*-tests to determine whether adding *conditions* – or, in this case, the teacher cluster variable – to the model significantly reduced variability at the teacher / class level) for Year 1 are presented in Table 17, while variability estimates (and the associated *F*-tests) for Year 2 are presented in Table 18. In several cases variability at the school level was 0 (meaning there was no significant difference among students' mean gain scores among schools), which invalidated the results of conditional models (as between-school variability is used as a denominator in the analyses); as a result, the school level was removed from those models, and variance was partitioned by class and random error only. Analyses in which this occurred are marked accordingly in the tables.

The intraclass correlation coefficients (ICCs) for school and for teacher / class[10] are also presented in Table 17 and Table 18. Unconditional ICCs are a measure of the amount of variance explained by the teacher or school level, sometimes also defined as the extent of similarity among students' responses within the same classroom (or school). Conditional ICCs are a measure of the amount of variance left unexplained at the teacher or school level once the teacher concerns cluster has been entered into the model; it can also be understood as a measure of similarity among students' responses within classes that have been matched on teacher cluster. Teacher concerns cluster was determined to

---

[10] These may appear to be quite small in magnitude, but they are fairly typical for studies using gain scores (rather than repeated measures) in multilevel modeling. Using gain scores increases residual variance (relative to using repeated measures), and that larger residual variance is used as a denominator when calculating the ICCs.

be a statistically significant predictor if it produced a large enough decrease in the teacher/class-level ICC from the unconditional to the conditional model.

Dummy-coded teacher concerns cluster variables were added to the analyses to create 12 conditional models; the variability estimates and ICCs for these models are presented adjacent to the unconditional models in Table 17 and Table 18. Covariates such as SES, gender, and TJ curriculum dosage were also entered in the conditional models if they had been found to be significantly associated with the change score in the AN(C)OVA procedures described above (namely, female gender was entered into the analyses of differences in the Interpersonal, Adaptability, and Social Skills gain scores in Year 1, and to the Interpersonal, Social Skills, and Problem Behavior gain scores in Year 2; free lunch status was entered into the analyses of the Social Skills and Problem Behavior scales for Years 1 and 2, and dosage was entered into the analyses for Stress Management and Social Skills in Year 2). In all 12 analyses, the residual variance was significant at the $p < .05$ level, indicating that there were predictors left out of the model that would have been helpful in explaining the differences in students' gain scores, and in one model (predicting gain scores in Year 2 intrapersonal subscale of the EQ-i:YV[s]), the intercept (the grand mean of all gain scores on this variable) was significantly different at the $p < .05$ level from 0. This simply reflected the fact that, overall, students described themselves as having dropped approximately 3 points on this measure over the course of the year.

Teacher cluster, along with SES, explained a significant (at the $p < .05$ level) amount of variance in mean student gain scores on the SSRS social skills scale in Year 1. In addition, there were tendencies towards significance (at the $p < .10$ level) in three other

models: on the other SSRS scale (problem behavior, when SES covariate was included) in Year 1, and on the change scores in the EQ-i:YV(s) intrapersonal and adaptability subscales in Year 2. Finally, gender as a covariate significantly accounted for some of the variance in change scores in the SSRS problem behavior scale in Year 2. These results are explained in the following paragraphs, while their details and estimates for the models' intercepts and regression weights for different teacher concerns clusters are summarized in Table 19.

In Year 1, student outcomes on teacher-rated measures of change appeared to vary by teacher concerns cluster. Specifically, teachers with Self & Staff concerns rated their students as gaining, on average, 8.86 points (about ½ of a standard deviation) on the social support scale, though this gain was attenuated by students' SES. Those with a "0" SES (meaning that they never applied or their application for free or reduced lunch services was not approved) were described by their teachers as having the highest gains, while each increasing unit of socioeconomic need (as measured by either reduced or free lunch qualification) reduced the gain by 2.2 points on the social skills scale. Teachers who expressed other types of concerns rated their students as improving less, with teachers with primarily Self concerns reporting some improvement and teachers with both Consequence & Refocusing and Impact concerns reporting little or no change, along with decrements in behavior related to increased socioeconomic need across the board. These results are consistent with those from the previously reported ANCOVAs, in which the mean gain score of students of teachers expressing Self & Staff concerns was significantly higher (and, indeed, the only change in a positive direction) than all other group means.

The model of the relationship of teacher concerns clusters to change in the problem behavior scale of the SSRS in Year 1 also provided tentative support for the findings of the ANOVA results discussed previously. Again, only teachers expressing Self & Support concerns reported overall decreases in problem behavior over the course of that academic year, while teachers expressing other kinds of concerns identified increases in problem behavior. These results were again influenced across the board by the students' SES, with students with less economic need improving more than their relatively disadvantaged counterparts. Specifically, teachers expressing Self & Support concerns rated their students as having decreased 2.57 points (about 1/6 of a standard deviation) in terms of problem behavior over the course of the year, an improvement that was reduced by 1.64 points for each increment of socioeconomic need. Teachers expressing Consequence & Refocusing concerns reported the highest level of increase in problem behavior among their students over the course of Year 1; they noticed a 2.87-point increase in problem behavior, with additional increases according to socioeconomic need.

Differences among gain scores in the teacher-rated measure were not replicated in Year 2 (unlike the results of the ANCOVAs reported previously, which indicated that teacher concerns clusters were significantly related to student gains in teacher-rated social skills). As mentioned in a footnote 9, this lack of findings may accurately reflect an absence of differences in student change among teacher concerns clusters over the course of the year, or it may have occurred in part because of the increased and unexplainable variance introduced in the variable of interest by having two different teachers complete the pre- and postassessments.

Despite the lack of findings among teacher ratings in Year 2, differences in gain scores on two of the student-rated EQ-i:YV(s) subscales – intrapersonal and adaptability – did indicate trends towards significant relationships with teacher concerns clusters. Specifically, students taught by teachers reporting primarily Self & Impact and Consequence & Refocusing concerns described the least decrease in their intrapersonal skills over the course of Year 2, indicating, on average, a decrease of 1.49 and 1.36 points, respectively. On the other hand, students in classrooms led by teachers reporting primarily Management and Impact concerns described the greatest decreases in intrapersonal skills over the course of the year, with 4.86- and 5.18- point decreases, respectively (these differences are illustrated in a line graph in Figure 16). These differences were supported by a trend towards significance at the $p < .07$ level.

Though differences among teacher concerns clusters on the intrapersonal subscale had not found through the ANCOVA reported previously, some support for the ANCOVA results was generated by the HLM of gain scores on the adaptability subscale of the EQ-i:YV(s) in Year 2. Students whose teachers primarily reported Self & Impact and Consequence & Refocusing concerns reported gains in their adaptability scales (of 2.74 and 2.14 points, respectively), while students in classrooms led by teachers expressing primarily Impact and Management concerns described themselves as either retaining the same skills or losing approximately 1.97 points on this subscale, respectively, over the course of the year. These differences were not large enough to be confirmed by post hoc analyses, however.

Two findings are of special note here, in reference to using hierarchical methods to analyze data gathered in schools. First, though the differences in gain scores in Year 2

on the SSRS social skills scale appeared to be related to teacher concerns clusters in the ANCOVAs, this result was not replicated through HLM, perhaps because the interdependence of observations when one is using teacher ratings of student behavior might be expected to be quite high, and therefore the probability of Type I error might have been inflated significantly. Second, the p-values for the F-tests for three of the four models discussed above were higher than they had been in the previously reported AN(C)OVAs. This provides significant impetus for using multilevel modeling to examine data from schools and teachers, as the danger of inflating Type I error based on the non-independence of responses can clearly lead researchers to make conclusions incorrectly. This may be especially true when using teacher-rated measures as outcomes.

<p style="text-align:center">Changes in Teacher Concerns Over Program Implementation</p>

Originally questions about the developmental progression of teachers' concerns over time were to be explored using latent transition analysis (LTA). However, the dataset included two years of concerns cluster identification for only 29 teachers, which was an insufficient n for use in LTA. Chi-square tests were then used to determine the probability that a teacher who reported one type of concern at one point might tend to report another type at another time. However, with the small n entered into the analyses, many of the expected cell counts were less than 5, rendering those tests unreliable and the data inappropriate for that type of analysis. Instead, and similar to the discussion above about patterns of teacher concerns clusters across schools, an uncertainty coefficient was used to examine trends in the change of teachers' concerns over time. It indicated a trend towards significance when predicting Year 2 concern clusters from Year 1 concerns clusters (0.20, $p = .07$). This suggests that as much as 20 percent of the variance among

Year 2 teacher concerns cluster membership could be reduced by using teachers' Year 1 concerns as a predictor. This is not a statistically significant finding and therefore should be treated cautiously; Table 20 provides details about how many teachers with one type of concern in Year 1 reported a particular type of concern in the next year of the study.

A few patterns appeared in that data that are worth mentioning here; teachers who expressed Self concerns during Year 1 were most likely to express Self & Impact concerns in the following year, though some also expressed Consequence & Refocusing concerns. Most teachers expressing Consequence & Refocusing concerns during Year 1 expressed other kinds of concerns in the following year, though they were divided equally among teachers expressing Management and Impact concerns. While half of those expressing Hall and Hord's ideal Impact concerns during Year 1 continued to express those concerns in Year 2, the other half expressed Consequence & Refocusing concerns, instead. And, finally, those teachers who expressed Self & Staff concerns (and who had rated their students as doing comparably well in terms of social support and problem behavior on the SSRS) during Year 1 later expressed Consequence & Refocusing, Self & Impact, and Impact Concerns in the second year. These results largely do not appear to be consistent with Hall and Hord's model of developmental progression of teacher concerns, though the nuances and possible implications of these transitions will be examined further in the Discussion.

Identifying Potential Cumulative Effects of Teacher Concerns on Student Outcomes

Once concerns clusters had been identified and used to examine whether different types of teacher concerns were related to variations in changes in student behavior over the course of single years, and once changes in teacher concerns clusters over time had

been examined, one set of analyses remained: the examination of whether teacher

concerns have a cumulative effect on student behavior over the course of two years.

Creating a Cumulative Teacher Concerns Variable

Hall and Hord's work proposed that teachers can progress through stages of

concern, beginning with Awareness and Information concerns, through Personal and

Management concerns, and finally into Impact concerns such as Consequence,

Collaboration, and, after years of implementation, Refocusing. However, this dataset

yielded somewhat different types of teacher profiles, in which teachers often reported

both lower order and higher order concerns simultaneously. The original intent of this

study was to compare the ratings of students who had been taught by teachers with

primarily lower order concerns to those who had been taught by teachers with primarily

higher order concerns over the course of two years, to determine whether there were

cumulative effects of teacher concerns over time. However, given the more complicated

concerns profiles of teachers in this study, that strategy no longer seemed logical, and an

alternate one was sought.

Teacher concerns clusters were able to be grouped into two categories within each

year: those whose responses to stage 6 Refocusing items were lower in intensity than

their answers to other Impact concern items ('tail down'), and those whose responses to

those items were higher in intensity than their answers to other Impact concern items

('tail up')[11]. This pattern, as described before in the Teacher Variables Within Systems

Impacting Implementation and Teacher Concerns Clusters sections, is important in

---

[11] While teachers who expressed primarily Self concerns in Year 1 did not endorse a Tail Up pattern (see
Figure 5), per se, their overall lack of engagement with the program – as indicated by their lower order
concerns, low dosage, and low ratings of the program overall – seemed to merit their inclusion in the Tail
Up, or resistant, group for the purposes of these longitudinal analyses.

detecting resistance to a particular program. As the aim of this study was to examine whether different types of teacher concerns were detectable in student outcomes, and because resistance to a curriculum seemed an important and possibly quite influential variable within teacher concerns, this "resistance" indicator seemed a logical place to begin constructing a variable that described students' longitudinal experience of teacher concerns clusters.

Therefore, students who had been taught by teachers in Year 1 with primarily Self and Consequence & Refocusing concerns were distinguished from those who had been taught that year by teachers with primarily Impact and Self & Staff concerns; similarly, students who had been taught in Year 2 by teachers with primarily Management and Consequence & Refocusing concerns were distinguished from those who were in classrooms led by teachers with primarily Self & Impact and Impact concerns. A categorical variable was created in the dataset that identified four types of students: 1) those who had been taught by teachers during both years who indicated a resistant, *Tails Up* pattern in their concerns profile, 2) those who had been taught by a teacher in year 1 who indicated resistance but in year 2 did not indicate resistance (a.k.a., *Tails Up, Tails Down*), 3) those who had been taught by a teacher in year 1 who did not indicate resistance but by a teacher in year 2 who did indicate resistance (a.k.a., *Tails Down, Tails Up*), and 4) those who were taught by teachers in both years who did not report any pattern of resistance in their concerns profile (a.k.a., *Tails Down*).

Using Analysis of Variance to Detect Possible Cumulative Effect of Teacher Concerns

This categorical variable was used as a predictor in ANOVAs or ANCOVAs using pretest (at T1) as a covariate and longitudinal gain scores (T4 − T1) as a dependent

variable. Using longitudinal gain scores rather than repeated measures of all assessment points minimized the potential for missing data, which might have occurred at any of the four time points and eliminated a student from the analysis. Missing data was still an issue, however; because this test was only able to use data from students who had complete assessments at both of those time points *and* who were in classrooms led by teachers who completed the SoCQ at both opportunities, many students within this district were left out of the following analyses. Approximately 438 students were entered into the analysis of student-rated outcomes and approximately 511 students were entered into the analysis of teacher-rated outcomes. Encouragingly, however, statistical comparisons of the means on student- and teacher-rated measures between groups of students who had complete data and those who had one or more teachers who did not submit a SoCQ indicated no significant differences.

There was one pre-existing difference among longitudinal teacher concerns groups on the intrapersonal subscale of the EQ-i:YV(s). Those in the Tails Down, Tails Up group rated themselves about 6 points higher on this subscale at T1 than did those in the Tails Up, Tails Down group (no other differences among group means on the intrapersonal subscale were significant at the $p < .05$ level). As a result, an ANOVA on the change score on the intrapersonal scale of the EQ-i:YV(s) was performed rather than an ANCOVA using pretest as a covariate (as done previously in single-year analyses of gain scores; see explanation for this in Detecting Differences Through Analysis of Variance, above). Descriptive statistics of longitudinal gain scores, along with summaries of the *F*-tests of group differences and their significance levels, appear in Table 21.

On the student-rated EQ-i:YV(s), there were two trends towards a significant relationship between students' gain scores and the types of "tailing up" or "resistance" patterns in their teachers' concerns over two years of program implementation – on the intrapersonal and adaptability subscales. Specifically, there was a trend towards a significant difference between those students with Tails Down, Tails Up teachers and students in all other groups. Post hoc analyses using the Bonferroni correction did not indicate any significant differences among those groups, however, and the difference seen in Table 21 may be an artifact of regression towards the mean – this same group at T1 reported a mean that was approximately 6 points higher than that of their peers – and this difference had simply disappeared at T4. This pattern in the data is depicted in a line graph in Figure 19, with the mean gain score for students whose teacher concerns cluster data were missing included as a point of comparison.

The trend towards significance in the change score on the adaptability subscale of the EQ-i: YV(s) may be more meaningful, although post hoc analyses using Bonferroni correction again detected no significant (at the $p < .05$ level) differences among groups. The results do point to a possible difference between student outcomes among Tails Down teachers and Tails Down, Tails Up teachers. This is the only example of an EQ-i:YV(s) subscale that indicated the possibly positive effects of having successive teachers who expressed few concerns about needing to change the program. The data in this regard summarized in a line graph in Figure 20, which includes as a reference point the mean longitudinal gain score on the adaptability subscale for students whose teachers' concerns clusters were missing.

The relationships between the patterns in teacher resistance to the curriculum over time and student outcomes were better supported on the teacher-rated SSRS. Change scores on both scales – social skills and problem behaviors – were significantly related to the different patterns of resistance expressed by students' teachers. In the social skills scale, for example, post hoc tests relying on the Bonferroni correction indicated that students with Tails Down teachers were rated by their second-year teacher as having improved between 6.86 and 9.65 points more than their counterparts over the course of two years (all differences significant at $p = .06$ or less; this pattern is depicted in a line graph in Figure 21, which includes for comparison the mean gain score on the social skills scale of students whose teachers' concerns data were unavailable). The possible effect of longitudinal resistance patterns on teacher ratings of student behavior was small, with η^2 of 0.035. This indicated that the year 2 teacher whose students had been in classrooms led by Tails Down teachers identified a 19 percent increase in their students' gains in social skills relative to their counterparts.

Significant differences in students' gain scores on the problem behavior scale of the SSRS also appeared to vary with types of teacher concerns over the course of two years; post hoc analyses using Tamhane's T2 (because variance in the dependent variable was not equal among groups) indicated that year 2 teachers rated students who were taught by Tails Up, Tails Down teachers as increasing in problem behaviors by between 6.29 and 6.97 points over two years relative to those students with Tails Up *or* Tails Down teachers. The possible effect of longitudinal resistance patterns on teacher ratings of student problem behavior was small, with η^2 of 0.019. Based on the BESD, this indicated that the year 2 teacher whose students had been in classrooms led by Tails Up,

Tails Down teachers identified an increase in problem behaviors that was 14 percent more than year 2 teachers whose students had been in classrooms led by consistently Tails Up and Tails Down teachers. Though these results are less interpretable given the models discussed previously, they do point to the possibility that teachers' concerns over time may be related to teacher ratings of students' problem behaviors. These results are summarized in a line graph in Figure 22, which includes for comparison the mean gain scores in teacher ratings of the problem behavior of students whose teacher concerns data were unavailable.

As demonstrated with the analysis of the single-year data, using non-hierarchical techniques with data gathered within schools can inflate the Type I error and lead to erroneous conclusions. Caution should therefore be used when interpreting these results because the lack of independence of observations. Despite this limitation, ANCOVAs (and one ANOVA) was used to examine these data because of the complexity of executing and interpreting multiple membership models; however, it is possible that the significant effects found here would not be replicated using those methods.

DISCUSSION

Owing to the general lack of research on the relationship between teachers'

concerns and students' outcomes in preventive programs, the hypotheses informing this

study relied primarily on existing theory rather than empirical evidence. Therefore, the

purpose of this study – especially given its reliance on correlational data – was to explore

whether relationships found among these variables might justify further study. The

analyses summarized in the Results section hint at such relationships, but perhaps more

importantly, they bring up several important questions and issues that warrant and could

inform additional research in this area. The lack of simplicity and consistency among

statistical findings merits a quick summary of the results of each study question. These

summaries will be followed by a discussion of issues raised for this and future research,

drawn from the questions that remain unanswered and the limitations of the current

study's design.

Summaries of Findings

Teacher Concerns Clusters

Cluster Analyses

A few of the clusters determined by empirical techniques yielded concerns

profiles that were commonly found in Hall and Hord's work: namely, the Self cluster in

Year 1, the Management cluster in Year 2, and the Impact clusters in both Year 1 and

Year 2. Perhaps not surprisingly, however, teachers within this district comprised

primarily of low-income students and challenging school environments also reported

concerns profiles that were not specifically discussed in Hall and Hord's work. Those

included the Self & Staff cluster in Year 1 and Self & Impact cluster in Year 2. Within

Hall and Hord's framework, individuals expressing strong Self concerns might be expected to implement the curriculum less effectively and therefore lead classrooms in which students respond in a more limited way. That prediction was not supported by the analyses in this study, which indicated that, if anything, teachers expressing Self concerns – that were combined with Impact concerns (such as Collaboration and/or Consequence) and a tailing down in Refocusing concerns – reported that their students improved in social skills and showed no increases in problem behavior.

Finding that the teacher concerns clusters did not comply neatly with Hall and Hord's seven-stage model of concerns was not surprising. Several researchers (Bailey & Palsha, 1992; Cheung et al., 2001) have failed to confirm the stage structure that Hall and Hord proposed in the 1970s, and have published their own alternative versions (which were not used here because they have not been replicated by other published studies and the settings in which they collected their data were quite different from that of this study). Further, the teachers operating within this school district operate under conditions that – though they may have been included in Hall and Hord's original samples – did not predominate within them. This special needs district is comprised of a student population who struggles with significant financial and social disadvantages. Furthermore, staff and leadership turnover, frequent programming changes, failing physical plants, extensive standardized testing, and rigid academic curricula comprise a frequently stressful environment for educators. Under these conditions, one would expect teachers' concerns about a curriculum that is commonly perceived as ancillary to academic work to reflect their unique and challenging situation.

That three of the four clusters in both years of the study expressed strong concerns in the Impact (Consequence, Collaboration, and Refocusing) stages – whether they endorsed a Resistant tail up or down – again supported the idea that teachers within this district had concerns that were quite different than those in Hall and Hord's studies. Hall and Hord found that Impact concerns profiles were "very rare" (Hall & Hord, 2006, p. 150), and found them only when "change truly has been treated as a process, that there has been a principal with an Initiator Change Facilitator Style, and that the innovation … was significant and matched the school's vision well" (p. 150). Though there may have been some contexts in this study in which this confluence of factors existed, it seems unlikely that they predominated. Other explanations may be needed here.

Even when teachers simultaneously expressed strong Personal concerns (as Hall and Hord would predict for teachers implementing an educational innovation within stressful, unsupportive environments), they were also clearly thinking about the effects of the TJ curriculum on their students. Many explanations might account for this finding; perhaps the district's special needs designation, and/or the push for results-focused and empirically based programs within the No Child Left Behind era has created a culture of critical consumerism among teachers in districts that are under the accountability microscope. They might therefore be concerned about a curriculum's demonstrated impact on students at a level not commonly seen 30 years ago. That so many teachers expressed strong concerns about the impact of this curriculum on their students – regardless of whether they felt resistance towards or support for the program overall – is also likely a testament to their dedication to their profession and to the disadvantaged students and settings with whom they chose to work.

Also unusual in this study was the finding that many teachers (two out of four clusters in both years), expressed concerns about collaboration, a pattern again identified as relatively rare by Hall and Hord. This finding suggests several possibilities about teachers within this special needs district. It may reflect a desire for more support from colleagues and/or a desire to facilitate their colleagues' use of the program. It may also have arisen from how this program was framed during the program's training sessions, in which interdependence among teachers and the creation of an SEL community was stressed as factors important to successful student outcomes in *Talking with TJ*. Regardless of the underlying reason, this finding suggests that teachers were interested in improving collegial efforts related this curriculum, and that they may have recognized the importance of having the curriculum consistently implemented throughout their organization.

Developmental Progression

It appears that most teachers' concerns changed over the course of two years, though – perhaps predictably – not in the idealized way discussed in Hall and Hord's work. There was little evidence to support the idea that a teacher in this district with lower-level concerns in the first year (e.g., with Self concerns in Year 1) endorsed higher-level concerns during the next year (e.g., Management or Impact concerns in Year 2). Instead, teachers seemed to move over the course of two years from lower order to higher order and from higher order to lower order concerns clusters in no systematic way. Hall and Hord (2006) frequently described the developmental progression through the concerns stages as only likely to occur in ideal situations – "*If* the innovation is appropriate, if the leaders are initiating, and if the change process is carefully facilitated"

(p. 141, emphasis theirs) and over the course of 3 to 5 years. Therefore, the seemingly random movement among types of concerns about the TJ curriculum may simply reflect, in a few of the schools, teachers' perceptions of a lack of stability in school leadership and/or wavering levels of support for the program among their principals and fellow professionals. More plausibly, it could result from wide variations in implementation levels during the first year that resulted in students with equally varying background in SEL principles during the second (which would have, at random, made implementation in the second year easier or more difficult). More likely, however, the result may simply be an artifact of the relatively short (2-year) time period of this study; had the analyses drawn on data from a 3- to 5-year period, as typically studied by Hall and Hord, a clearer pattern of teachers moving from lower order to higher order concerns might have emerged. In the short-term, the developmental course of teacher concerns may be more spiral (Kress & Elias, 2006) or characterized by "two steps forward, one step back," rather than appearing as a linear, straightforward progression.

Hall and Hord tended to find that, when ideal conditions for program implementation did not occur (i.e., when the program was not particularly appropriate for the setting, when leaders were not particularly active, and/or when change was treated as an event rather than a process needing significant ongoing support), teachers often were stymied in their developmental progression, expressing primarily Management concerns or even regressing into primarily Personal concerns (Hall & Hord, 2006). Again, perhaps because of the short time-frame of this study, that observation was not explicitly supported by the data in this study – most teachers' concerns changed over time, though not in a consistent way. This has, perhaps, both positive and negative implications for

implementing preventive programming in struggling districts: on one hand, teachers seemed not to be entrenched in their negative (or positive) views about this curriculum; on the other hand, the state of flux in their attitudes may reflect the challenging levels of adjustments and innovations they are asked to incorporate into their practice. The often random longitudinal patterns in teacher concerns may also have resulted from the wide variation in students' SEL skills that teachers likely encountered in the second year of the study. No doubt, some teachers found most of their students well-versed in TJ principles and skills, had an easier time implementing the program in the second year, and their concerns may have reflected that – regardless of their feelings about the curriculum the previous year. Other teachers may have found the majority of their students to have little, if any, foundation in SEL skills and strategies, have experienced more difficulty and challenge in implementing the program, and therefore have concerns that reflected that situation, regardless of how they had felt about the TJ program the year before. These possibilities suggest that future studies might explore the effects of students' responses to the curriculum and their SEL skills on teacher concerns, which may be as important a process in implementation as the effect of teacher concerns on students' outcomes.

There was some suggestion within the data that the developmental progression through the stages might happen on an organizational, rather than teacher, level. In School 7 and School 8, for example, while most teachers in Year 1 expressed Self concerns, they tended to express Management or Impact concerns in Year 2, thereby demonstrating a progression towards higher-level concerns over time. This finding needs further exploration, however, as this pattern only occurred in two schools. It is also not immediately clear why there would be progression through the stages on an

organizational rather than individual level, though the finding that some schools were comprised primarily of teachers endorsing a particular concerns profile may support ideas about the influence of institutions and leadership their constituents' perception of a curriculum.

Relationship Between Student Outcomes and Teacher Concerns Clusters

Single-year Analyses

Based on the theoretical models discussed in the introduction to this study, it was proposed that students in classes led by teachers with higher order (i.e., Impact) concerns would make more gains in SEL skills than their peers in classrooms led by teachers with lower order or resistance (i.e., Self, Management, Refocusing) concerns, because, presumably, teachers with the former type of concerns would deliver the curriculum in a way that would allow the mechanisms of change specified in the Causative Theory to work. This expected pattern was, to a great extent, not supported by this dataset.

In the majority of analyses, a significant relationship between teacher concerns and measures of SEL skill gain was not found. The sole exception to this rule in the HLM analyses occurred in the model of gain scores on the teacher-rated measure of social skills during Year 1, in which teachers who expressed Self & Staff concerns rated their students as having gained social skills such as assertion, cooperation, and self-control over the course of the year (as opposed to teachers with other types of concerns, who reported little change in their students in these domains). Given the resilience of HLM analyses to interdependence of observations within schools and teachers, this result can be viewed as accurately representing patterns of student behavior change in this dataset. The meaning of this result is not entirely clear, given the theoretical framework

of this study. It brings up questions about why certain teachers, who expressed concerns about how the curriculum will affect their personal teaching and professional status and about collaborating with other staff members, reported the most change in their students' social skills over the course of the first year of this study. This result are unlikely to be explained by a particular type of school climate, as teachers expressing Self & Staff concerns were in almost every school in the district, and there were never more than two teachers with these concerns in any given school.

The result raises the possibility that, within high-risk districts, effective teachers of SEL may be those who focus on self-care and on reaching out for support from (and giving support to) other teachers. Given some of the most basic premises of SEL programming – that one identifies and regulates one's own emotional state, and that social relationships are crucial to most forms of success in the academic, social, and professional domains – it may be that the SEL program was particularly resonant with these teachers' perspective. This match may have enhanced their teaching of this curriculum, and thereby, resulted in improved student outcomes, a conclusion that would agree with the findings of Han and Weiss's (2005) exploration of teacher-executed mental health programs. This explanation is clearly speculative within this context, however, and needs further empirical support. It does bring up questions about the match of teachers' personal choices to their professional responsibilities, and the synergy that may be found therein.

Other trends in the relationship between teacher concerns clusters and student outcomes are tentative, at best, but point to questions that may be explored in future studies. Analyses of variance and covariance yielded significant differences among

teacher concerns clusters in students' self-rated gains in intrapersonal and adaptability skills, and in teacher-rated gains in both social skills and problem behaviors. These patterns were somewhat supported by HLM analyses that yielded trends towards significant differences among teacher concerns clusters in students' gain scores in problem behavior and adaptability and intrapersonal skills. In Year 1, for example, teachers who expressed primarily Self & Staff Concerns, in addition to rating their students as having made gains in social skills, appeared to be the only teachers to describe their students as having remained consistent in their level of problem behavior rather than acquiring new internalizing, externalizing, and hyperactivity behaviors over the course of the year (teachers with other types of concerns seemed to report increases in these behaviors among their students).

Students whose teachers reported either primarily Impact or Management concerns tended to describe themselves as losing more ground in their intrapersonal and adaptability skills over the course of the second year of this study, when compared to their peers in classes led by teachers with Self & Impact or Consequence & Refocusing concerns. This pattern supports the hypothesis in some respects – it does not seem unreasonable that students in classrooms led by teachers expressing primarily Management concerns might lose ground on skills targeted by the curriculum, but that students in classrooms with teachers expressing Hall and Hord's ideal Impact concerns also described themselves as losing ground over the course of the year is inconsistent with what was predicted. Interestingly, that pattern was belied to some extent by teacher ratings of students' social skills: while teachers with Management concerns rated their students as losing social skills over the course of that year (which would generally agree

with the students' ratings of their behavior that year), all other teachers (including those in the Impact concerns cluster) reported that their students retained or gained skills in that domain. In other words, although students in classes with teachers expressing primarily Impact concerns rated themselves as losing skills (in the intrapersonal and adaptability domains), their teachers rated them as having retained the skills (in the domains of self-control, cooperation, and assertion) they had at preassessment.

Though there were some significant relationships found among different types of teacher concerns and student outcomes, it appears that neither lower order concerns (such as those about the effects of the curriculum on the teacher him/herself) nor Consequence & Refocusing concerns were consistently related with poorer student outcomes than other types of concerns, though there was some evidence to suggest that students in classrooms led by teachers with primarily Management concerns might not reap as many benefits from the curriculum. In this study, teachers who expressed Self concerns in combination with higher order concerns (such as Impact or Collaboration) noticed significant gains in their students' social skills.

Longitudinal Analyses

There were some significant differences among the different trajectories of "Resistance Tails" in teachers' ratings of students' social skills and problem behavior change over two years. Those students who were members of classes led by teachers who reported Tails Down for both years were rated by their Year 2 teacher as having made significant improvements in social skills, when compared to students rated by other teachers. At the same time, students within *both* the solely Tails Up or solely Tails Down trajectories were rated by their Year 2 teachers as having maintained their problem

behavior levels, rather than increasing those levels (as occurred in Year 2 teacher ratings of students in the Tails Up, Tails Down group).

These results must be interpreted cautiously because they are based on traditional analysis of variance and covariance techniques that rely on assumptions of independence of observations, and the risk of Type I error may be higher than indicated by the *p*-values. However, the idea that students with two consecutive tails down teachers would show improvements in social skills and a maintenance (rather than increase) in problem behaviors relative to most of their peers is consistent with this study's hypothesis that certain types of teacher concerns may have a cumulative – and, in this case, positive – effect on student outcomes. This finding may have been the result of a process whereby solid grounding in SEL learning from one year can be capitalized on the following year – while teachers in other classrooms (who are teaching children who had a less solid foundation, or who are resistant to the program themselves) may not be able to tap into the synergy of starting out with a classroom of students who have a basic understanding of SEL principles.

That 60 percent of these Tails Down students were from two schools, School 6 and School 9, and another 25 percent of this group attended School 2 and School 10, raises important questions about the effects of school context on this process. It seems unlikely that teachers alone are responsible for the gains among this group of students. The data in Table 9 and Table 10 indicate that School 6 and School 9 were the only two schools to have a majority of teachers who endorsed Tails Down concerns in both Year 1 and Year 2, raising the possibility that these were schools in which leaders were actively facilitating the TJ program and the school climates were less conducive to Refocusing

concerns than others. It is possible to imagine, for example, how easily resistant

concerns about an intervention can spread and grow within a context where the majority

of teachers have such concerns; such attitudes and feelings might be casually discussed

among colleagues and formally introduced in meetings when they are seen to reflect the

"general opinion." On the other hand, in a school where the majority of teachers are

mostly supportive of the curriculum, the atmosphere would be less responsive to

individuals expressing resistant concerns, and the formal response to those kinds of

feelings and attitudes might be to facilitate implementation. The possibly cumulative

effect of Tails Down teacher concerns may therefore rely not only on the classroom

context, but also a wider school environment that is supportive of the intervention and

enhances the program's effects on students. Such a conclusion is consistent with SEL

causative and prescriptive theory, but clearly needs further exploration and empirical

support.

<div align="center">Implications and Directions for Future Study</div>

The implications of this study draw more from what was *not* found than what was

found in the data, as the few significant findings were inconsistent across years and

sometimes difficult to explain given the theoretical framework of this project.

Specifically, the findings that teachers' concerns did not generally follow a progression

through Hall and Hord's stages, that lower order and even resistant concerns were not

consistently related to detriments in student outcomes, and that the evidence for the

positive impact of one or even two years of higher order concerns was tentative, at best,

point to several important issues and directions for future research.

Understanding Teacher Concerns within Challenging Environments

As mentioned previously, though some clusters' concerns profiles corresponded to common profiles discussed by Hall and Hord, others seemed unusual. Furthermore, one of those atypical clusters was related to significant gains in students' social skills (according to teachers), and the expected pattern of lower order concerns being related to poorer student outcomes (and higher order concerns being related to improved student outcomes) was generally not supported by this data. It is difficult to explain this pattern of results, but it does raise the possibility that important variables to the constructs explored here were left unmeasured or were measured inaccurately. Specifically, though the additional attitudinal ratings and dosage variables available in this study helped to shed some light on the characteristics of teachers within the concerns clusters with unusual profiles, it became apparent through the analyses that either teachers' attitudes about, perceptions of, and perceived ability to carry out the intervention are mostly irrelevant to students' outcomes, or that the SoCQ did not accurately measure those thoughts and feelings or only measured a proportion of the important thoughts and feelings in this domain.

The findings of this study suggest that teachers' concerns – as measured by the SoCQ – about preventive interventions within disadvantaged school districts, may take forms uncommonly found elsewhere. Because teachers' concerns have been found generally to correspond to their implementation of a curriculum (Hall & Hord, 2006), there is still impetus for better understanding their concerns within this context. Therefore, significant work needs to be conducted to determine the important variables impacting teachers' attitudes towards, perceptions of, and perceived ability to carry out

innovations, as well as other variables that impact their ability to carry out preventive intervention work. In addition to the existing items on the SoCQ, these variables might include, for example, the number of years they have spent in the district (and/or school), the fidelity with which they implemented the program within their classroom, and their perception of school climate and support from administration and colleagues.

Without measuring these additional variables, it was difficult in this study to determine the characteristics of teachers expressing atypical concerns profiles; with them, more a more accurate understanding of the implementation processes could have been generated. These additional variables might have helped explain, for example, why the Consequence & Refocusing profiles identified in this study were not related to decrements in students' outcomes. It may be that teachers implementing preventive programming in these districts who express strong Consequence and Refocusing concerns are not less likely to implement the program well, but are, instead, distinguished from those expressing an ideal Impact concerns profile only by their strong desire to *do* something about their concerns (as argued by Bailey & Palsha, 1992, in their study of the concerns of clinicians learning a new intervention for working with at-risk families with new infants). That might help to explain why students with teachers expressing Consequence & Refocusing concerns, in some analyses, seemed to have better outcomes than some of their peers.

Future studies of teacher concerns and student outcomes in preventive interventions, therefore, should not assume that the SoCQ is a thorough measure of the relevant educator attitudinal variables related to program implementation and student response. Referring back to the Greenberg et al. model may aid in the selection of

variables assessed in future studies; for example, the study might incorporate other measures of implementer readiness, the quantity/quality/fidelity of program delivery, and implementer characteristics such as the amount of time spent in the school or district, their ethnic or socioeconomic status relative to their students, match of their own outlook on social and emotional management to SEL program principles, and their perceptions of student, peer, administrative, and community support for the program. Measuring such variables would yield a more complete understanding of the teacher's role in facilitating student change through SEL program implementation.

Researchers – especially those operating in a challenging educational context – who plan to use the SoCQ as a measure of teacher concerns should also conduct their own psychometric analyses of the instrument (provided the sample of teachers is sufficiently large). Part of the difficulty in identifying the relationships between student behavior change and teacher concerns in this particular study may have arisen because SoCQ items would not have clustered together in this sample as they did in the samples Hall and Hord used to validate the instrument in the 1970s. Psychometric analyses might have revealed different clusters of SoCQ items in this low-income, highly challenging environment, and these new stages of concern might have more accurately described the teachers in this sample. Concerns clusters based on these unique stages may have been found more reliably to predict differences in students' outcomes in the TJ curriculum, than did the clusters based on Hall and Hord's original psychometric analyses.

Measuring Student Behavior Change in Preventive Programs

Most significant findings in this study arose in analyses of teacher concerns clusters and teacher ratings of student behavior rather than students' ratings of their own

change. One way to interpret these findings is that teachers with certain profiles of

concerns about a program are more likely to look for certain kinds of change within their

students because they are supportive (or not supportive) of the intervention. Another way

to interpret these findings is that students are less adept at noticing and reporting on their

prosocial and SEL tendencies than are teachers. Looking at items on the EQ-i:YV(s), for

example, one might be struck by how difficult it might be for children – and especially

young children of age 6 through 8, for example – to notice and report changes in

frequency on the behaviors covered. Their feelings might have to change quite

significantly in order for them to notice that they "get angry" or "upset" less easily, or are

more likely to feel bad when other people's feelings are hurt.

Indeed, there is considerable debate over the validity of self-report measures of

social and emotional skills – even for adults. In two studies, Brackett and his colleagues

found little agreement between self-rated and performance measures of emotional

intelligence tasks in studies of predominantly Caucasian college students (Brackett &

Mayer, 2003; Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006). Significant

differences between demographic characteristics of those samples and the one in this

study notwithstanding, the data they presented argued that self-report measures of social

and emotional skills may be inaccurate because people have limited ability to rate their

social and emotional skills. However, other reasons for the lack of agreement in those

studies are notable, including that the self-rated and performance measures assessed

completely different constructs within emotional intelligence (Brackett & Mayer, 2003)

and a tendency of the self-report measures to ask *about* social and emotional skills rather

than about their actual *use* (as would be assessed by a performance measure; Brackett et al., 2006).

In any case, the discrepancies in the number of significant findings on teacher-versus student-rated measures of behavior change bring up important issues about measuring change in SEL programs. As in many types of studies, it may be particularly important in SEL programs with young children to assess behavior change through neutral observers, and compare those assessments with those of teachers and students. This may help ensure that teachers do not overestimate change (they may generally report an increase in problem behavior over the course of the year because they have had simply more time to observe internalizing, externalizing, and hyperactive behavior among their students, or may report an increase in social skills because they have worked hard to deliver the SEL curriculum) and that students do not underestimate change (by failing to notice when their behavior has improved).

Maximizing External Validity

Implementation studies are particularly important because they are conducted in real-world settings and their results can be extrapolated to school districts facing real-world challenges. It is therefore important that the methods used in designing and analyzing the data from implementation studies focus on maximizing external validity, and several findings from this study inform how future research can achieve this aim.

First, the clear tendency for HLM to be a more conservative test of differences among student outcomes by teacher concerns clusters than the ANOVA / ANCOVA techniques was of particular note within this study. It serves as a caveat emptor to those relying on the outcomes of school-based research that employs traditional analysis of

variance techniques. Though the variability attributable to school-level effects was quite low in this study, there was significant variability in student outcomes attributable to the class / teacher, and this resulted in an underestimation of the probability of Type 1 error in the analyses of variance. Ongoing and future studies gathering data from schools would be of most service to their audience if they employed multilevel modeling techniques, thereby ensuring that their conclusions are likely to apply to the larger population.

Another statistical issue in this study that possibly impacted its external validity was the missing data that arose when examining questions related to both students and their teachers simultaneously. This dataset, despite drawing from two (in Year 1) or three (in Year 2) grades from an entire district over the course of two years, lacked the number of teachers necessary to examine whether there were longitudinal trends in teachers' expression of concerns. Further, because teacher variables distinguished the groups of students from each other, when a teacher failed to return his/her SoCQ, a significant amount of student data had to be left out of the analyses. Though this did not appear to be problematic in the analysis of the longitudinal effects of resistance patterns in teacher concerns (in that there were no systematic differences in gain scores between students whose teachers returned the survey and those who did not), there were significant differences between students whose teachers returned the SoCQ and those whose teachers did not on both measures of student- and teacher-rated change in the subsamples used in the Year 1 and Year 2 analyses. Future studies that seek to examine issues of teachers' attitudes and student outcomes simultaneously and over time would be well-

advised to be particularly attentive to how dramatically and rapidly missing data can accumulate due to the normal process of attrition and failure to return surveys.

This study also generated some questions about how best to classify teachers' concerns in a way that would generalize to a larger population. The technique used here – cluster analysis relying on the original Hall and Hord subscales – may not have been the one that was best able to detect differences in student outcomes or that was most representative of teachers' concerns about preventive interventions within special needs districts. Future studies, for example, might be better advised to conduct their own psychometric analyses of the SoCQ data they have gathered in order to determine the subscales most relevant to their own dataset, and to conduct the cluster analyses based on those subscales. That may ensure that the teacher concerns clusters profiles accurately reflect those of a sample of teachers who are contemporaries of today's educators and likely face more similar types of demands and students than those faced by teachers 30 years ago.

In the real world, SEL and other preventive programs are implemented over time – in part because it takes significant dedication and practice to achieve fluent delivery and in part because they are intended to have cumulative effects on students over the course of their development. In this regard, future studies in this area might take a few lessons from the current work. First, in the single-year analyses of the relationship between teacher concerns clusters and student outcomes, students who had at least one year of exposure to the curriculum previously were not analyzed separately from those who were new to the program, and student attendance was not a variable entered into these analyses. The causative and prescriptive theories underlying SEL programming make a

strong argument that students with different levels of exposure to the programming would not be equivalent, so future studies should – at the very least – plan include these variables in their analyses.

Further, future studies should note that not all domains of SEL skills may be expected to change at the same pace, and some might take several years to respond to the curriculum and to be detectable to the students themselves. While there is some indication that some skills– namely, cooperation, assertion, and self control – and problem behaviors – namely, externalizing, internalizing, and hyperactivity – may be amenable to change during the period of a year, other skills (namely, interpersonal and stress management) did not seem as responsive to possible differences curriculum implementation. The EQ-i:YV(s) scales on which there were even trends towards relationships between student outcomes and different teacher concerns clusters were those assessing intrapersonal and adaptability skills. The former primarily asked students to rate the ease with which they could open up to other people, and the later asked them to comment on their ability to solve problems and answer questions creatively. Assuming these results are supported by further studies, it may be possible that these kinds of skills are the most amenable to relatively short-term change, while interpersonal (caring about other people) and stress management (including anger management) skills may take longer or may be harder for students to detect in themselves. Studies that account for this in their hypotheses will be of more use to their audience than will those that propose that all domains of SEL skills are likely to change at the same rate and within the same timeframe.

Generating More Questions than Answers

This study's aim was to begin the exploration of one aspect of preventive program implementation – teachers' concerns – and its relationships to student outcomes in an attempt to understand better one element of the complex process of organizational and individual change. Because results were inconsistent and tentative, at best, very little was found that would strongly support (or not support) the underlying causative and prescriptive theories discussed in the introduction to this paper.

At the same time, some illumination was cast on how best to study the myriad processes involved in program implementation. Indeed, in many respects, the most useful outcome of this study was the implication that the field knows less than previously assumed about the mechanisms of change in preventive interventions implemented in school districts comprised of disadvantaged students. Even a relatively common finding in other studies – that program dosage accounts for a significant amount of variance in student gain scores – was confirmed in only two of the numerous analyses within this study. Ultimately, it is clear that, although teachers concerns could play an important role in program implementation and thereby influence students' outcomes, there are many more questions to be answered before there is a solid understanding of what form those concerns take and the routes through which they exert their effects.

Table 1.

Overview of Stages of Concern

Fuller category	Hall & Hord stage		Concern or question
Unrelated	0	Awareness	Unconcerned with innovation
Self	1	Informational	'What is this program?'
	2	Personal	'What will this program require of me?'
Task	3	Management	'How will I incorporate this into my practice?'
Impact	4	Consequence	'What effect is this program having on students?'
	5	Collaboration	'Would it be better if I worked with others on this?'
	6	Refocusing	'How can I improve this program?'

Table 2.

"Talking with TJ" Lessons and Focal Skills (Second Grade)

Unit	Power Phrase	Teamwork Tips
What's the Plan? (Group planning and Problem solving)	"Can we do it? Yes, we can! First, we have to make a plan!"	Take turns talking. Keep trying. Do your part.

Pre-lesson: Sorting game

Lesson 1: Warm-up/TJ intro; Video; Discussion; Puzzle activity

Lesson 2: Party planning; Saying the power phrase

Lesson 3: 'Baseball Boo Boo' activity

Lesson 4: Reading TJ Comic; Reviewing power phrase and teamwork tips; Signing

  power phrase poster

| All together now! (Appreciating differences) | "Everything is better when we do it together!" | Smile and say, "Hi!" Don't hurt feelings. Invite others to join in. |

Table 2. (Continued)

Unit	Power Phrase	Teamwork Tips

Lesson 5: Warm-up/Review; Blue-Green word play; Video; Discussion

Lesson 6: What matters is on the Inside

Lesson 7: 'Number cheers' activity

Lesson 8: Reading TJ Comic; Reviewing power phrase and teamwork tips; Signing

　　power phrase poster

Team Spirit!	"Satisfaction guaranteed,	Help your teammates.
(Cooperative team play)	when we help our team	Say, "You an do it!"
	succeed!"	Say, "Nice job!"

Lesson 9: Warm-up/Review; Video; 'Car Wash' game; Discussion

Lesson 10: 'Calling TJ' activity

Lesson 11: 'Put-up Flower' game

Lesson 12: Reading TJ Comic; Reviewing power phrase and teamwork tips; Signing

power phrase poster

Being a Good Team Member

Lesson 13: Review of power phrases and teamwork tips; 'Giving Your Best' activity

Lesson 14: 'Being a Team Member' activity

Lesson 15: 'Strengths and Things to Improve on' activity

Lesson 16: Wacky Olympics; Reviewing TJ teamwork and power phrases

Table 3.

"Talking with TJ" Lessons and Focal Skills (Third Grade)

Unit	Power Phrase	Teamwork Tips
<u>What's the Plan?</u> (Respect for others)	"Can we do it? Yes, we can! First, we have to make a plan!"	Take turns talking. Keep trying. Do your part.

Pre-lesson: Coloring activity; Video introduction

Lesson 1: Warm-up/TJ intro; Video; Respect discussion

Lesson 2: 'Speaker power' activity <u>('Learning to listen' activity)</u>

Lesson 3: 'Thank you' game <u>('Being helpful' activity)</u>

Lesson 4: Reading TJ Comic; Reviewing power phrase and teamwork tips; Signing

power phrase poster; Unit review

<u>All together now!</u> (Self-awareness & Individual differences)	"Everything is better when we do it together!"	Smile and say, "Hi!" Don't hurt feelings. Invite others to join in.

Table 3. (Continued)

Unit	Power Phrase	Teamwork Tips

Lesson 5: Warm-up/Review; Video; Discussion

Lesson 6: 'We are the same and we are different' activity

Lesson 7: 'Inside and outside differences' activity

Lesson 8: Reading TJ Comic; Reviewing power phrase and teamwork tips; Signing

    power phrase poster; Unit review

Unit	Power Phrase	Teamwork Tips
Team Spirit! (Friendship)	"Satisfaction guaranteed, when we help our team succeed!"	Help your teammates. Say, "You an do it!" Say, "Nice job!"

Lesson 9: Warm-up/Review; Video; Discussion; 'Friendship' activity

Lesson 10: 'Sharing scenarios' activity

Lesson 11: 'Trusting friends' activity

Lesson 12: Reading TJ Comic; Reviewing power phrase and teamwork tips; Signing

power phrase poster; Unit review

Table 3. (Continued)

Unit	Power Phrase	Teamwork Tips

Teamwork Involves Cooperation and Honesty

Lesson 13: 'Honesty makes teams strong' activity (moved to Lesson 16 in 2001–2002

school year); Practice working cooperatively; 'Lessons from the geese' or

'Human knot' activities; Hassle log discussion

Lesson 14: 'Puppet making' activity; Conflict discussion

Lesson 15: 'When purple meets green' activity

Lesson 16: Review TJ teamwork tips and power phrases; Previous lessons review

Previewing conflict resolution & Wrapping up teamwork (2001–2002 school year only)

Lesson 17: 'Practicing cooperation' activity

Lesson 18: 'Conflicts that happen in a day' activity

Lesson 19: 'Resolving Alexander's conflicts' activity

Lesson 20: Creating power phrase posters

Note. Additions to curriculum during second year of study are underlined.

Table 4.

"Talking with TJ" Lessons and Focal Skills (Fourth Grade)

Unit	Power Phrase	Troublestoppers
Preparing the class		

Lesson 1: Introduction to TJ techniques ('Speaker power,' 'Listening position,' and

 'Sharing circles')

Lesson 2: Introduction to TJ; Video; 'TJ Says' game

Unit	Power Phrase	Troublestoppers
Keep Your Cool!	"Keep your cool!"	Calm Down
		Say, "Let's work this out"
(Managing conflict)		Walk Away
		Ask for Help

Lesson 1: Video; Discussion

Lesson 2: 'Troublestoppers freeze frame' activity & discussion

Lesson 3: 'Troublestoppers freeze frame' activity & discussion with troublestoppers

 application

Lesson 4: TJ Comic reading; Reviewing power phrase and troublestoppers; Signing

 power phrase poster; Unit review

Table 4. (Continued)

Unit	Power Phrase	Teamwork Tips
<u>Take a New Look!</u> (Perspective taking)	"Take a new look"	Say, "Here's how I see it" Say, "How do you see it?" Show you're listening

Lesson 5: Video; 'Troublebugs' Discussion

Lesson 6: 'Footprints' activity (Troublestopper rehearsal)

Lesson 7: 'Instrument' activity (generating Win-Win solutions

Lesson 8: TJ Comic reading; Reviewing power phrase and troublestoppers; Signing
power phrase poster; Unit review

<u>Say the Right Thing!</u>	"Say the right thing!"	Use friendly words Work out a win-win

Lesson 9: Video; Discussion; 'Friendly Word Fix-up' activity

Lesson 10: 'Survey Says' activity; Troublestoppers presentation

Lesson 11: Freeze frame activity (troublestoppers application)

Lesson 12: TJ Comic reading; Reviewing power phrase and troublestoppers; Signing
power phrase poster; Unit review

Table 4. (Continued)

Unit	Power Phrase	Teamwork Tips

Reviewing all Troublestoppers

Lesson 13: 'Multiple Solutions' story activity

Lesson 14: 'Common student problems' activity; Discussion

Lesson 15: 'Different solutions have different consequences' activity

Lesson 16: 'It's important to have a Plan B' activity; Reviewing power phrase and
 troublestoppers

Applying TJ Skills to Health, Safety, & Social Issues

Lesson 17: Social action activity / Advertisements (part A)

Lesson 18: Social action activity / Advertisements (part B)

Lesson 19: TJ skills for drug resistance ('The Slumber Party')

Lesson 20: 'Hassle logs' activity

Lesson 21: 'Using TJ to confront bias' activity ('Accepting People who are
 Different')

Lesson 22: 'Why frog and snake don't play together' activity

Lesson 23: 'When to ask for help' activity

Table 5.

EQ-i:YV(s) Items by Subscale

Subscale	Item
Intrapersonal	It's hard to talk about my feelings.
	It's easy to tell people how I feel.
	It's easy for me to tell people what I feel.
	I have trouble telling other people about my feelings.
	I can talk easily about my feelings.
	I can easily describe my feelings.
Interpersonal	I care what happens to other people.
	I like doing things for others.
	I feel bad when other people have their feelings hurt.
	I can tell when one of my close friends is unhappy.
	I know when people are upset, even when they say nothing.
	I am able to respect others.

Table 5. (Continued)

Subscale	Item
Stress Management	I get angry easily.
	I get upset easily.
	When I get angry, I act without thinking.
	I get too upset about things.
	I fight with people.
	I have a temper.
Adaptability	I can understand hard questions.
	I can come up with good answers to hard questions.
	I can come up with many ways to answering a hard question when I want to.
	I can easily use different ways of solving problems.
	When answering hard questions, I try to think of many solutions.
	I am good at solving problems.

Table 6.

SSRS Items by Scales and Subscales

Subscale	Item
	Social Skills Scale
Assertion	Volunteers to help peers with classroom tasks.
	Says nice things about himself or herself when appropriate.
	Invites others to join in activities.
	Initiates conversations with peers.
Self-Control	Controls temper in conflict situations with peers.
	Responds appropriately when pushed or hit by other children.
	Compromises in conflict situations by changing own ideas to reach agreement.
	Controls temper in conflict situations with adults.
	Cooperates with peer without prompting.
Cooperation	Ignores peer distractions when doing class work.
	Attends to your instructions.
	Finishes class assignments within time limits.
	Puts work materials or school property away.

Table 6. (Continued)

Subscale	Item
	Problem Behavior Scale
Externalizing	Fights with others.
	Threatens or bullies others.
	Talks back to adults when corrected.
	Gets angry easily.
Internalizing	Has low self-esteem.
	Appears lonely.
	Shows anxiety about being with a group of children.
	Acts sad or depressed.
Hyperactivity	Is easily distracted.
	Interrupts conversations of others.
	Disturbs ongoing activities.
	Fidgets or moves excessively.

Table 7.

SoCQ Items by Subscales

Stage	Items
Stage 0 Awareness	I don't even know what the innovation is. I am not concerned about this innovation.
Stage 1 Information	I have a very limited knowledge about the innovation. I would like to know what the use of the innovation will require in the immediate future.
Stage 2 Personal	I would like to know the effect of reorganization on my professional status. I would like to know who will make the decisions in the new system. I would like to know how my teaching or administration is supposed to change. I would like to have more information on time and energy commitments required by this innovation.

Table7. (Continued)

Stage	Items
Stage 3 Management	I am concerned about conflict between my interests and my responsibilities. I am concerned about my inability to manage all the innovation requires. I am concerned about time spent working with nonacademic problems related to this innovation. Coordination of tasks and people is taking too much of my time.
Stage 4 Consequence	I am concerned about students' attitudes toward this innovation I am concerned about how the innovation affects students. I am concerned about evaluating my impact on students. I would like to use feedback from students to change the program.
Stage 5 Collaboration	I would like to help other faculty in their use of the innovation. I would like to develop working relationships with both our faculty and outside faculty using this innovation. I would like to familiarize other departments or persons with the progress of this new approach. I would like to know what other faculty are doing in this area.

Table 7. (Continued)

Stage	Items
Stage 6 Refocusing	I now know of some other approaches that might work better. I am concerned about revising my use of the innovation. I would like to revise the innovation's instructional approach. I would like to modify our use of the innovation based on the experiences of our students.

Table 8.

Teacher Concerns Clusters and Associated Characteristics, Year 1 and Year 2

Cluster Number	Stage 1 – Awareness	Stage 2 – Personal	Stage 3 – Management	Stage 4 – Consequence	Stage 5 – Collaboration	Stage 6 – Refocusing	Dosage (% of possible)	Effectiveness rating (1 not at all; 4 highly)	Lessons helped me (# out of 5 possible areas)	TJ helped students (1= Yes, 2= Some; 3 = No)	Lessons' value (1 = little value; 4= highly)	Used TJ at other times (1 = Often; 4 = Never)	Description	"Refocusing" tail direction
									Year 1					
1	3.0*	2.9	2.0*	2.6*	1.6*	1.6*	57*	3.0*	3.6	2.0*	2.0	1.9	Self Concerns	NA
2	1.7*	2.6	2.4*	3.5*	2.0*	2.8*	72*	2.6*	3.3	2.0*	2.4	1.7	Cons. & Ref. Concerns	Up
3	1.9*	2.2	1.9*	3.9*	3.2*	2.3*	80*	3.3*	4.5	1.7*	1.9	1.6	Impact Concerns	Down
4	2.4*	2.8	1.3*	1.6*	3.1*	2.3*	72*	3.1*	3.9	1.6*	1.7	1.8	Self & Staff Concerns	Down

Table 8. (Continued)

Cluster Number	Stage 1 – Awareness	Stage 2 – Personal	Stage 3 – Management	Stage 4 – Consequence	Stage 5 – Collaboration	Stage 6 – Refocusing	Dosage (% of possible)	Effectiveness rating (1 not at all; 4 highly)	Lessons helped me (# out of 5 possible areas)	TJ helped students (1= Yes, 2= Some; 3 = No)	Lessons' value (1 = little value; 4= highly)	Used TJ at other times (1 = Often; 4 = Never)	Description	"Refocusing" tail direction
						Year 2								
1	1.9	2.3	<u>3.0</u>*	2.6	1.6*	2.2*	69	2.8	3.1*	2.1*	2.4*	2.2	Management Concerns	Up
2	2.2	<u>2.8</u>	1.8*	<u>2.5</u>	2.5*	1.5*	83	3.1	4.5*	1.5*	1.8*	1.6	Self & Impact Concerns	Down
3	2.2	2.0	2.0*	<u>2.7</u>	1.6*	<u>2.7</u>*	79	2.7	3.5*	1.8*	2.1*	2.0	Cons. & Ref. Concerns	Up
4	2.1	2.4	1.7*	<u>3.1</u>	<u>3.3</u>*	2.7*	76	3.1	3.4*	1.5*	1.9*	1.9	Impact Concerns	Down

Note. Underlined items are extremes within cluster used to determine cluster concerns type.

* = Highest means within column are different from lowest means within at *p* < .05 level

Table 9.

Number of Teachers Within Clusters By School, Year 1

School	Self Concerns	Cons. & Refocusing Concerns	Impact Concerns	Self & Staff Concerns	Total no. of Teachers Responding
School 1	0	3	0	0	3
School 2	2	1	3	1	7
School 3	1	2	1	1	5
School 4	1	0	2	0	3
School 5	0	2	1	1	4
School 6	1	2	2	2	7
School 7	4	1	0	1	6
School 8	5	0	0	0	5
School 9	1	2	2	2	7
School 10	0	0	1	1	2

Table 10.

Number of Teachers Within Clusters by Schools, Year 2

School	Management Concerns	Self & Impact Concerns	Cons. & Refocusing Concerns	Impact Concerns	Total no. of Teachers Responding
School 1	3	2	1	0	6
School 2	5	0	3	3	11
School 3	0	0	1	2	3
School 4	1	1	4	1	7
School 5	1	1	5	1	8
School 6	0	6	1	2	9
School 7	3	4	4	0	11
School 8	0	3	0	0	3
School 9	3	2	2	5	12
School 10	2	2	0	1	5

Table 11.

Differences Among Students' Pretest Scores By Teacher Concerns Clusters, Year 1

	Self Concerns	Cons. & Ref. Concerns	Impact Concerns	Self & Staff Concerns	Totals
			EQ-I:YV(s) (student / self-rated)		
Intrapersonal	n = 202	n = 211	n = 171	n = 97	n = 681
$F(3, 677)$ =	M = 97.30°	M = 97.25°	M = 99.51	M = 102.29°	M = 98.55
2.86, p = .04	SD = 15.55	SD = 16.15	SD = 15.43	SD = 17.26	SD = 16.02
Interpersonal	n = 204	n = 216	n = 171	n = 97	n = 688
$F(3, 684)$ =	M = 90.42*	M = 93.53	M = 91.26	M = 95.98*	M = 92.39
3.00, p = .03	SD = 16.51	SD = 17.08	SD = 17.08	SD = 16.24	SD = 16.87
Stress Mgmt	n = 204	n = 215	n = 169	n = 97	n = 685
$F(3, 681)$ =	M = 95.95	M = 95.60	M = 96.04	M = 97.01	M = 96.01
0.18, p = .91	SD = 15.50	SD = 15.81	SD = 15.34	SD = 15.25	SD = 15.50
Adaptability	n = 205	n = 216	n = 173	n = 97	n = 691
$F(3, 687)$ =	M = 95.47	M = 97.28	M = 97.77	M = 98.15	M = 96.99
1.01, p = .39	SD = 16.19	SD = 15.52	SD = 15.12	SD = 14.96	SD = 15.55

Table 11. (Continued)

	Self Concerns	Cons. & Ref. Concerns	Impact Concerns	Self & Staff Concerns	Totals
			SSRS (teacher-rated)		
<u>Social Skills</u>	$n = 224$	$n = 198$	$n = 197$	$n = 175$	$n = 794$
$F(3, 790) =$	$M = 100.51$	$M = 100.21$	$M = 102.77$	$M = 102.30$	$M = 101.39$
$0.93, p = .43$	$SD = 19.74$	$SD = 17.61$	$SD = 17.89$	$SD = 19.28$	$SD = 18.67$
<u>Prob. Beh.</u>	$n = 223$	$n = 199$	$n = 197$	$n = 173$	$n = 792$
$F(3, 788) =$	$M = 103.32*$	$M = 100.62$	$M = 102.59$	$M = 98.85*$	$M = 101.48$
$3.52, p = .02$	$SD = 16.01$	$SD = 13.04$	$SD = 15.33$	$SD = 14.92$	$SD = 14.97$

* Indicates higher mean(s) significantly different at $p < .05$ level from lower mean(s) via post hoc comparisons with Bonferroni (or Tamhane's T2, in the case of Problem Behavior scale because of the inequality of variances in the dependent variable among teacher clusters) correction (within rows, unasterisked means were not found to differ significantly from any other means).

° Indicates higher mean(s) significantly different at the $p < .07$ level from lower means(s) via post hoc comparisons with Bonferroni correction (within rows, unmarked means were not found to differ significantly from any other means).

Table 12.

Differences Among Students' Pretest Scores By Teacher Concerns Clusters, Year 2

	Management Concerns	Self & Impact Concerns	Cons. & Refocusing Concerns	Impact Concerns	Totals
		EQ-i:YV(s) (student / self-rated)			
<u>Intrapersonal</u>	$n = 264$	$n = 312$	$n = 331$	$n = 216$	$n = 1123$
$F(3, 1119) =$	$M = 99.70$	$M = 97.63$	$M = 96.72$	$M = 99.88$	$M = 98.28$
$2.43, p = .06$	$SD = 15.97$	$SD = 16.43$	$SD = 18.20$	$SD = 15.22$	$SD = 16.68$
<u>Interpersonal</u>	$n = 270$	$n = 310$	$n = 331$	$n = 219$	$n = 1130$
$F(3, 1126) =$	$M = 92.78$	$M = 92.87$	$M = 94.95$	$M = 93.40$	$M = 93.56$
$1.14, p = .33$	$SD = 16.87$	$SD = 16.66$	$SD = 16.38$	$SD = 16.69$	$SD = 16.64$
<u>Stress Mgmt</u>	$n = 266$	$n = 309$	$n = 330$	$n = 216$	$n = 1121$
$F(3, 1117) =$	$M = 99.09$	$M = 100.73$	$M = 97.98$	$M = 101.04$	$M = 99.59$
$1.95, p = .12$	$SD = 17.49$	$SD = 17.16$	$SD = 17.51$	$SD = 17.61$	$SD = 17.45$
<u>Adaptability</u>	$n = 265$	$n = 310$	$n = 328$	$n = 215$	$n = 1118$
$F(3, 1114) =$	$M = 98.48$	$M = 95.54$	$M = 97.00$	$M = 96.95$	$M = 96.93$
$1.40, p = .24$	$SD = 17.67$	$SD = 17.50$	$SD = 16.83$	$SD = 16.56$	$SD = 17.18$

Table 12. (Continued)

	Management Concerns	Self & Impact Concerns	Cons. & Refocusing Concerns	Impact Concerns	Totals
		SSRS (teacher-rated)			
Social Skills	n = 267	n = 296	n = 293	n = 236	n = 1092
F(3, 1088) =	M = 101.22	M = 101.36	M = 101.04	M = 101.43	M = 101.26
0.02, p = 1.00	SD = 20.68	SD = 18.46	SD = 20.45	SD = 17.56	SD = 19.36
Prob. Beh.	n = 265	n = 294	n = 296	n = 243	n = 1098
F(3, 1094) =	M = 102.80	M = 104.32	M = 104.80	M = 102.19	M = 103.61
1.57, p = .19	SD = 16.19	SD = 16.05	SD = 17.00	SD = 14.92	SD = 16.12

Note. There were no significant differences found among any groups via post hoc comparisons with Bonferroni correction.

Table 13.

Descriptive Statistics of Gain Scores by Teacher Concerns Clusters, Year 1

	Self Concerns	Cons. & Ref. Concerns	Impact Concerns	Self & Staff Concerns	Totals
	EQ-i:YV(s) (student / self-rated)				
Intrapersonal	n =202	n = 211	n = 171	n = 97	n = 681
	M = -0.74	M = -2.46	M = -4.75	M = -6.63	M = -3.12
	SD = 20.57	SD = 17.85	SD = 20.96	SD = 20.29	SD = 19.89
Interpersonal	n = 204	n = 216	n = 171	n = 97	n = 688
	M = 1.12	M = 1.02	M = 1.31	M = 1.08	M = 1.13
	SD = 18.57	SD = 20.63	SD = 18.81	SD = 18.05	SD = 19.19
Stress Mgmt	n = 204	n = 215	n = 169	n = 97	n = 685
	M = 0.61	M = -0.68	M = 0.51	M = -0.41	M = 0.04
	SD = 17.05	SD = 17.85	SD = 17.44	SD = 16.59	SD = 17.31
Adaptability	n = 205	n = 216	n = 173	n = 97	n = 691
	M = -0.60	M = -0.49	M = -1.83	M = -1.45	M = -0.99
	SD = 18.19	SD = 17.76	SD = 18.79	SD = 16.50	SD = 17.95

Table 13. (Continued)

	Self Concerns	Cons. & Ref. Concerns	Impact Concerns	Self & Staff Concerns	Totals
SSRS (teacher-rated)					
Social Skills	*n* = 224	*n* = 198	*n* = 197	*n* = 175	*n* = 794
	M = -0.68*	*M* = -1.83*	*M* = -1.43*	*M* = 5.63*	*M* = 0.24
	SD = 17.63	*SD* = 13.41	*SD* = 16.87	*SD* = 15.85	*SD* = 16.31
Prob. Beh.	*n* = 223	*n* = 199	*n* = 197	*n* = 173	*n* = 792
	M = 2.97	*M* = 5.20*	*M* = 3.42*	*M* = -0.43*	*M* = 2.90
	SD = 13.21	*SD* = 12.05	*SD* = 14.10	*SD* = 12.99	*SD* = 13.23

* Indicates higher mean(s) significantly different at *p* < .05 level from lower mean(s) via post hoc comparisons with Bonferroni correction (within rows, unasterisked items were not found to differ significantly from any other value).

Table 14.

Descriptive Statistics of Gain Scores by Teacher Concerns Clusters, Year 2

	Management Concerns	Self & Impact Concerns	Cons. & Refocusing Concerns	Impact Concerns	Totals
EQ-i:YV(s) (student / self-rated)					
Intrapersonal	$n =$ 264	$n =$ 312	$n =$ 331	$n =$ 216	$n =$ 1123
	$M =$ -4.87	$M =$ -1.49	$M =$ -1.29	$M =$ -5.21	$M =$ -2.94
	$SD =$ 18.77	$SD =$ 18.66	$SD =$ 19.95	$SD =$ 18.27	$SD =$ 19.06
Interpersonal	$n =$ 270	$n =$ 310	$n =$ 331	$n =$ 219	$n =$ 1130
	$M =$ 0.71	$M =$ -0.28	$M =$ -1.07	$M =$ -1.81	$M =$ -0.57
	$SD =$ 18.20	$SD =$ 18.53	$SD =$ 16.80	$SD =$ 19.12	$SD =$ 18.08
Stress Mgmt	$n =$ 266	$n =$ 309	$n =$ 330	$n =$ 216	$n =$ 1121
	$M =$ -0.19	$M =$ 1.29	$M =$ 1.53	$M =$ -0.67	$M =$ 0.63
	$SD =$ 18.00	$SD =$ 15.85	$SD =$ 17.25	$SD =$ 18.10	$SD =$ 17.23
Adaptability	$n =$ 265	$n =$ 310	$n =$ 328	$n =$ 215	$n =$ 1118
	$M =$ -2.00*	$M =$ 1.91	$M =$ 2.64*	$M =$ -0.07	$M =$ 0.81
	$SD =$ 19.63	$SD =$ 19.60	$SD =$ 18.30	$SD =$ 17.87	$SD =$ 18.97

Table 14. (Continued)

	Management Concerns	Self & Impact Concerns	Cons. & Refocusing Concerns	Impact Concerns	Totals
			SSRS (teacher-rated)		
Social Skills	n = 267	n = 296	n = 293	n = 236	n = 1092
	M = -3.92*	M = 2.20*	M = 0.37*	M = 2.93*	M = 0.37
	SD = 18.68	SD = 17.50	SD = 18.62	SD = 15.57	SD = 17.88
Prob. Beh.	n = 265	n = 294	n = 296	n = 243	n = 1098
	M = 2.53	M = 0.05	M = 0.20	M = 0.79	M = 0.85
	SD = 15.59	SD = 15.91	SD = 14.72	SD = 13.43	SD = 15.00

* Indicates higher mean(s) significantly different at $p < .05$ level from lower mean(s) via post hoc comparisons with Bonferroni correction (within rows, unasterisked items were not found to differ significantly from any other value).

Table 15.

Significance of Differences Among Gain Scores on Self- and Teacher-rated Measures, Year 1 (with Covariates, when Significant in the Model)

Dependent variable / covariate	*df*	*F*	Sig.
EQ-i:YV(s): Intrapersonal[a]	3, 677	2.45	0.06
EQ-i:YV(s): Interpersonal[a]	3, 684	0.01	1.00
EQ-i:YV(s): Stress Management	3, 680	0.50	0.68
EQ-i:YV(s): Adaptability	3,683	0.39	0.76
Female (B = -3.67**, SE = 1.13)	1, 683	10.20	0.00
SSRS: Social Skills	3, 786	12.46	0.00
Free lunch (B = -2.26**, SE = 0.61)	1, 786	11.63	0.00
Female (B = 2.48*, SE = 1.04)	1, 786	6.93	0.01
SSRS: Problem Behavior[a]	3, 785	6.22	0.00
Free lunch (B = 1.11*, SE = 0.55)	1, 784	4.05	0.05

[a] *F*-test through ANOVA on gain scores rather than ANCOVA on gain scores with pretest as a covariate because of significant differences among groups at pretest.

* Regression weight significant at $p < .05$ level, ** Regression weight significant at $p < 0.01$ level

Table 16.

Significance of Differences Among Gain Scores on Self- and Teacher-rated Measures,

Year 2 (with Covariates, when Significant in the Model)

Dependent variable or covariate	*df*	*F*	Sig.
EQ-I:YV(s): Intrapersonal	3, 1118	1.49	0.21
EQ-I:YV(s): Interpersonal	3, 1108	1.01	0.39
Female (B = 2.01*, SE = 0.90)	1, 1108	4.61	0.03
EQ-I:YV(s): Stress Management	3, 1099	1.02	0.39
Dosage (B = 3.30, SE = 2.13)	1, 1099	4.07	0.04
EQ-I:YV(s): Adaptability	3, 1113	2.97	0.03
SSRS: Social Skills	3, 1067	9.10	0.00
Female (B = 2.24**, SE = 0.99)	1, 1067	5.13	0.02
Free lunch (B = -1.68**, SE = 0.55)	1, 1067	9.28	0.00
Dosage (B = 5.53*, SE = 2.57)	1, 1067	4.63	0.03
SSRS: Problem Behavior	3, 1070	2.44	0.06
Female (B = -1.90*, SE = 0.91)	1, 1070	4.39	0.04
Free lunch (B = 1.08*, SE = 0.50)	1, 1070	4.64	0.03

* Regression weight significant at *p* < .05 level, ** Regression weight significant at *p* <

0.01 level

Table 17.

Unconditional and Conditional Models for Partitioning Variance Among Change Scores on Self- and Teacher-rated Measures, Year 1

EQ-i:YV(s) – Intrapersonal subscale	Unconditional	Conditional
Between-school variability	NA (0)	NA (0)
Between-class variability	6.99	3.53
Random variability	388.72*	389.93*
$F(3, 43) = 2.04, p = .12$		
School ICC	NA (0)	NA (0)
Teacher ICC	0.018	0.0090

EQ-i:YV(s) – Interpersonal subscale	Unconditional	Conditional
Between-school variability	2.66	2.98
Between-class variability	3.89	5.71
Random variability	361.82*	362.37*
$F(3, 15) = 0.01, p = 1.00$		
School ICC	0.0072	0.0080
Teacher ICC	0.011	0.015
School + Teacher ICC	0.018	0.023

Table 17. (Continued)

EQ-i:YV(s) – Stress Management subscale	Unconditional	Conditional
Between-school variability	NA (0)	NA (0)
Between-class variability	0.28	1.64
Random variability	299.45*	299.21*
$F(3, 43) = 0.26, p = .86$		
School ICC	NA (0)	NA (0)
Teacher ICC	0.00095	0.0054
EQ-i:YV(s) – Adaptability subscale	Unconditional	Conditional
Between-school variability	8.60	8.90
Between-class variability	1.63*	2.99
Random variability	312.81*	311.99*
$F(3, 15) = 0.12, p = .95$		
School ICC	0.027	0.027
Teacher ICC	0.0051	0.0092
School + Teacher ICC	0.032	0.037

Table 17. (Continued)

SSRS – Social Skills scale	Unconditional	Conditional
Between-school variability	NA (0)	NA (0)
Between-class variability	31.36*	28.39*
Random variability	232.93*	229.77*
$F(3, 42) = 2.82, p = .05$		
School ICC	NA (0)	NA (0)
Teacher ICC	0.12	0.11

SSRS – Problem Behavior scale	Unconditional	Conditional
Between-school variability	NA (0)	NA (0)
Between-class variability	13.36*	12.74*
Random variability	161.19*	159.09*
$F(3, 42) = 2.37, p = .08$		
School ICC	NA (0)	NA (0)
Teacher ICC	0.077	0.074

* Variance term differs from 0, $p < .05$

Table 18.

Unconditional and Conditional Models for Partitioning Variance Among Change Scores

on Self- and Teacher-rated Measures, Year 2

EQ-I:YV(s) – Intrapersonal subscale	Unconditional	Conditional
Between-school variability	NA (0)	NA (0)
Between-class variability	11.39*	9.30*
Random variability	352.16*	352.24*
$F(3, 68) = 2.34$, $p = .08$		
School ICC	NA (0)	NA (0)
Teacher ICC	0.031	0.026
EQ-I:YV(s) – Interpersonal subscale	Unconditional	Conditional
Between-school variability	NA (0)	NA (0)
Between-class variability	8.71	9.23*
Random variability	318.27*	318.50*
$F(3, 68) = 0.61$, $p = .61$		
School ICC	NA (0)	NA (0)
Teacher ICC	0.027	0.028

Table 18. (Continued)

EQ-I:YV(s) – Stress Management subscale	Unconditional	Conditional
Between-school variability	2.73	3.48
Between-class variability	5.74	5.37
Random variability	287.72*	287.44*
$F(3, 18) = 1.12, p = .37$		
School ICC	0.0092	0.012
Teacher ICC	0.019	0.018
School + Teacher ICC	0.029	0.030

EQ-I:YV(s) – Adaptability subscale	Unconditional	Conditional
Between-school variability	NA (0)	NA (0)
Between-class variability	16.21*	14.43*
Random variability	344.06*	343.94*
$F(3, 68) = 2.26, p = .09$		
School ICC	NA (0)	NA (0)
Teacher ICC	0.045	0.040

Table 18. (Continued)

SSRS – Social Skills subscale	Unconditional	Conditional
Between-school variability	NA (0)	NA (0)
Between-class variability	76.77*	73.14*
Random variability	251.00*	251.11*
$F(3, 67) = 1.42, p = .24$		
School ICC	NA (0)	NA (0)
Teacher ICC	0.23	0.23

SSRS – Problem Behavior subscale	Unconditional	Conditional
Between-school variability	7.32	10.95
Between-class variability	56.64*	58.37*
Random variability	171.03*	170.01*
$F(3, 18) = 0.47, p = .71$		
School ICC	0.031	0.046
Teacher ICC	0.24	0.24
School + Teacher ICC	0.27	0.29

* Variance term differs from 0, $p < .05$

Table 19.

Regression Weights from Conditional HLMs with Significant (or Trends Towards

Significant at p < .10) Relationships Between Teacher Concerns Clusters and Student

Gain Scores

Year 1	Teacher Cluster			
Scale	Self Concerns	Cons. & Ref. Concerns	Impact Concerns	Self & Staff Concerns
SSRS: Social Skills	-6.07 $t(42) = -2.18*$	-7.28 $t(42) = 3.7**$	-7.22 $t(42) = -2.54*$	8.86 (intercept)
	Free lunch = -2.20, $F(1,746) = 10.46$, $p = .00$			
SSRS: Problem Behavior	3.10 $t(42) = 1.54$	5.43 $t(42) = 2.62**$	3.84 $t(42) = 1.86°$	-2.57 (intercept)
	Free lunch = 1.63, $F(1, 745) = 8.49$, $p = .00$			

Table 19. (Continued)

Year 2	Teacher Cluster			
Subscale	Management Concerns	Self & Impact Concerns	Cons. & Ref. Concerns	Impact Concerns
EQ-i:YV(s): Intrapersonal	0.33 $t(68) = 0.16$	3.69 $t(68) = 1.86°$	3.83 $t(68) = 1.95°$	-5.18 (Intercept)
EQ-i:YV(s): Adaptability	-1.99 $t(68) = -0.9$	2.12 $t(68) = 1.0$	2.73 $t(68) = 1.3$	0.02 (Intercept)

° trend towards significance at p < .07 level; * significant at $p < .05$ level; ** significant at $p < .01$ level.

Table 20.

Longitudinal Trends in Teacher Concerns Clusters

		Year 2 Cluster Membership			
		Management Concerns	Self & Impact Concerns	Cons. & Refocusing Concerns	Impact Concerns
Year 1 Cluster Membership	Self Concerns	1	4	2	1
	Cons. & Refocusing Concerns	3	0	1	3
	Impact Concerns	1	0	3	3
	Self & Staff Concerns	0	2	3	2

Table 21.

Descriptive Statistics of Longitudinal Student Gain Scores by Two-year "Resistance Tails" Teacher Concerns Patterns

	Tails up Y1&Y2	Y2 up, Y3 down	Y2 down, Y3 up	Y1&Y2 Tails down	Totals
EQ-i:YV(s) (student / self-rated)					
Intrapersonal[△]	$n =$ 146	$n =$ 132	$n =$ 99	$n =$ 62	$n =$ 439
$F(3, 435) =$	$M =$ -4.19	$M =$ -4.40	$M =$ -10.58	$M =$ -4.06	$M =$ -5.68
2.35, $p = .07$	$SD =$ 20.81	$SD =$ 21.30	$SD =$ 20.17	$SD =$ 21.31	$SD =$ 20.98
Interpersonal	$n =$ 145	$n =$ 130	$n =$ 100	$n =$ 62	$n =$ 437
$F(3, 432) =$	$M =$ 0.30	$M =$ 0.27	$M =$ -1.16	$M =$ 3.85	$M =$ 0.46
0.78, $p = .50$	$SD =$ 18.51	$SD =$ 19.64	$SD =$ 18.95	$SD =$ 19.50	$SD =$ 19.09
Stress Mgmt	$n =$ 144	$n =$ 132	$n =$ 99	$n =$ 62	$n =$ 437
$F(3, 432) =$	$M =$ 2.44	$M =$ 3.66	$M =$ 5.38	$M =$ 5.95	$M =$ 3.97
0.49, $p = .69$	$SD =$ 20.69	$SD =$ 18.87	$SD =$ 19.78	$SD =$ 23.41	$SD =$ 20.34
Adaptability	$n =$ 145	$n =$ 131	$n =$ 100	$n =$ 63	$n =$ 439
$F(3, 434) =$	$M =$ 1.70	$M =$ -0.72	$M =$ -1.83	$M =$ 4.10	$M =$ 0.52
2.52, $p = .06$	$SD =$ 18.79	$SD =$ 20.46	$SD =$ 20.35	$SD =$ 20.74	$SD =$ 19.97

Table 21. (Continued)

	Tails up Y1&Y2	Y2 up, Y3 down	Y2 down, Y3 up	Y1&Y2 Tails down	Totals
			SSRS (teacher rated)		
Social Skills	$n = 152$	$n = 146$	$n = 115$	$n = 95$	$n = 508$
$F(3, 503) =$	$M = 1.93°$	$M = -0.86*$	$M = -0.77*$	$M = 8.79*$	$M = 1.80$
$6.15, p = .00$	$SD = 21.40$	$SD = 20.09$	$SD = 18.32$	$SD = 22.07$	$SD = 20.74$
Prob. Beh.	$n = 154$	$n = 146$	$n = 116$	$n = 98$	$n = 514$
$F(3, 509) =$	$M = -0.47*$	$M = 5.82*$	$M = 3.34$	$M = -1.15*$	$M = 2.04$
$3.21, p = .02$	$SD = 17.50$	$SD = 16.57$	$SD = 15.06$	$SD = 19.76$	$SD = 17.37$

° F-statistic derived from one-way ANOVA rather than ANCOVA with pretest as a covariate because of pre-existing differences in student responses among longitudinal teacher concerns clusters at pretest.

* Significant difference between highest and lowest mean(s) at the $p < .05$ level using post hoc comparisons with Bonferroni (or, in the case of Problem Behavior scale, Tamhane's T2 because of inconsistent variance in the dependent variable across teacher concerns clusters) correction.

° Significant difference between highest and lowest means(s) at the $p < .07$ level using post hoc comparisons with Bonferroni correction.

Figure 1.

The Greenberg, Domitrovich, Graczyk, & Zins (2005) Model, after (Chen, 1998)
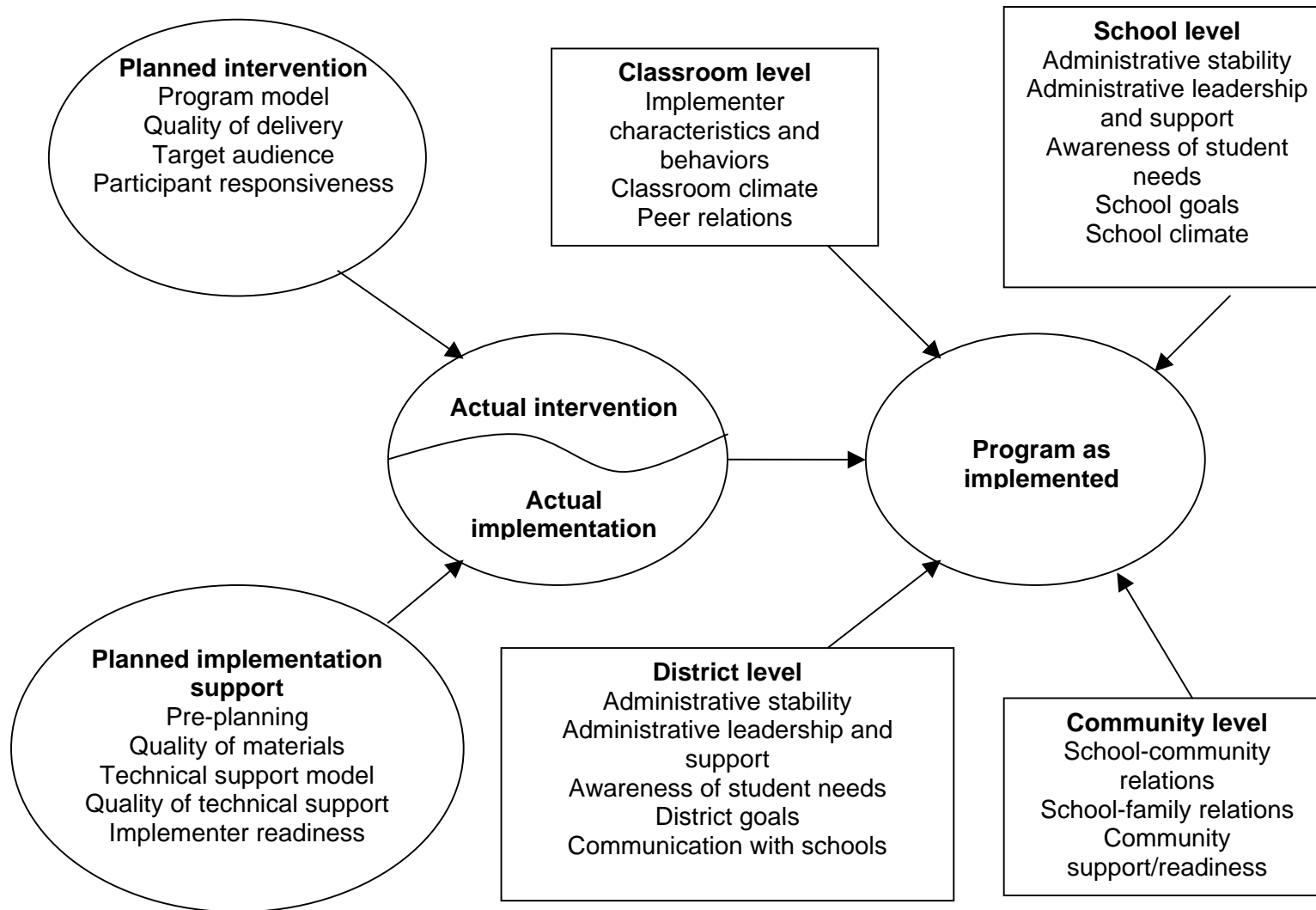
Figure 2.

Arsenio and Lemerise (2004)'s Integrated Model of Moral Domain Issues, Emotion Processes, and Cognition in Social Information Processing, with Proposed Sites for SEL Program Intervention
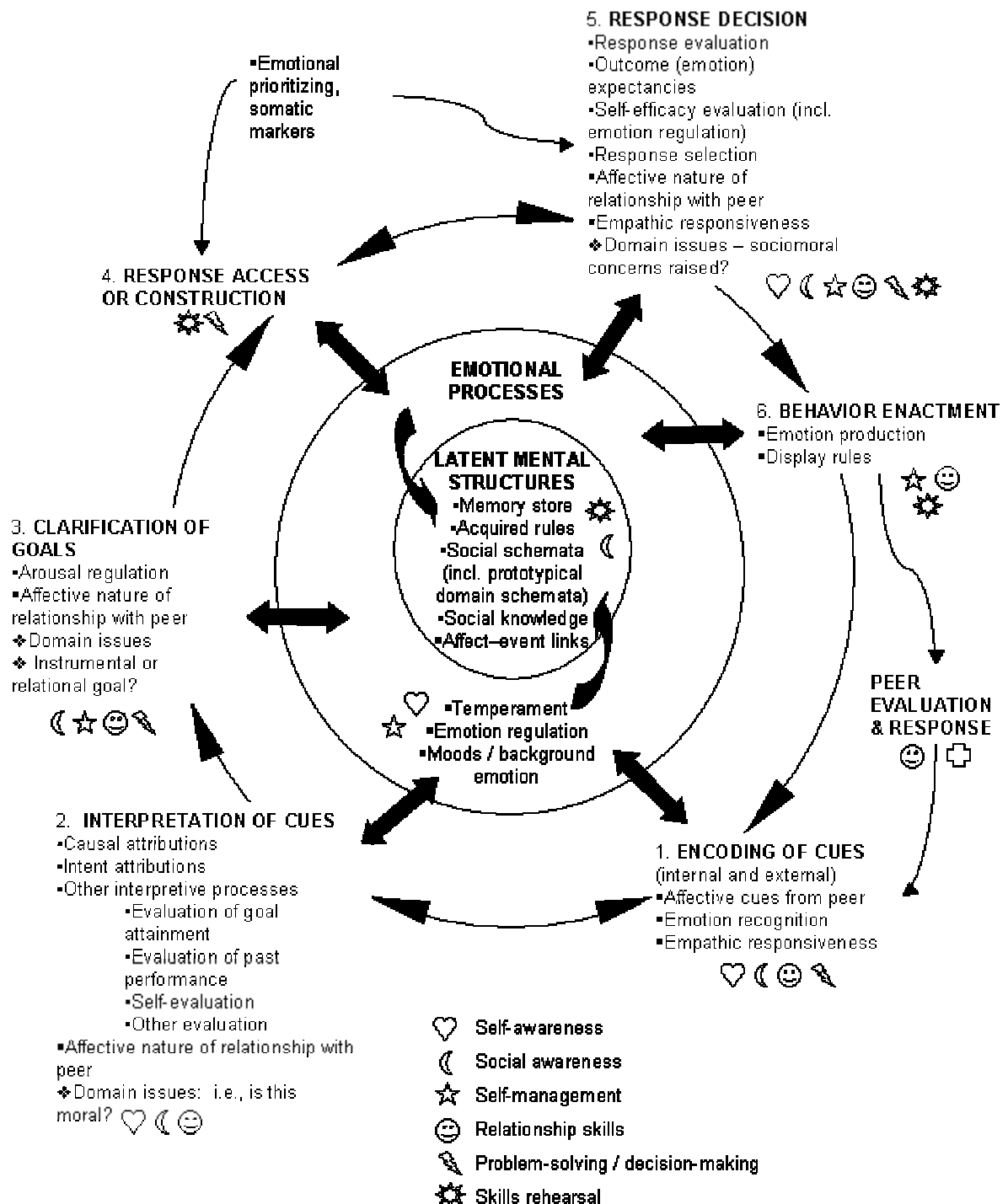
Figure 3.

Proposed Model of Teacher Concerns and Student Outcomes, after Greenberg et al.
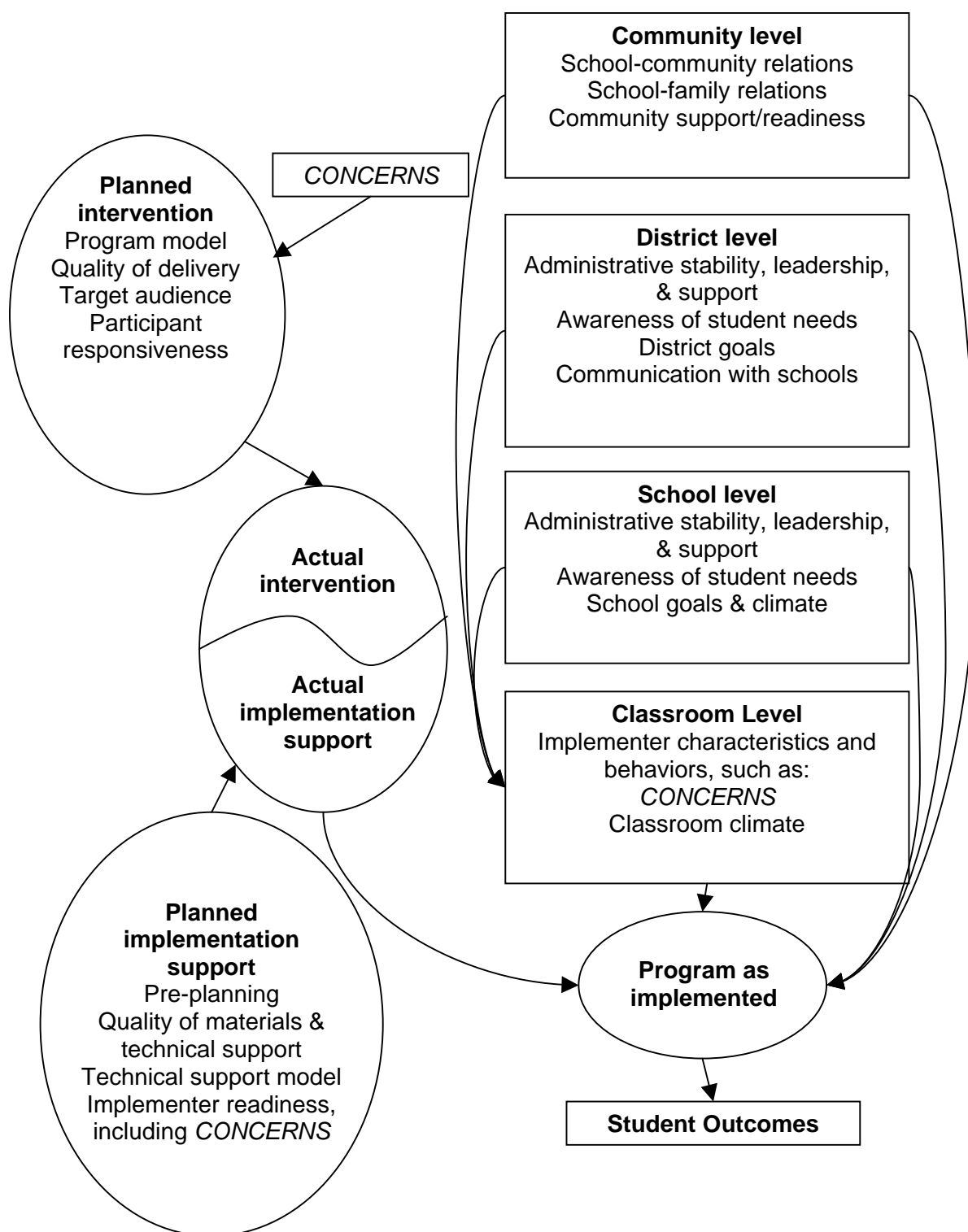
Figure 4.

Representation of Two-level HLM for Examining Relationships Among Teacher Concerns Clusters and Student Gain Scores, with Covariates

Level 2   *Unconditional & Conditional: School Indicator*   **School**

Level 1   *Unconditional: Indicator only;*   **Teacher**
              Conditional: Indicator, Concerns Cluster

Pupil   *Unconditional: None;*
              Conditional: SES, Gender, Dosage (where
              applicable)

EQi$_2$ - EQi$_1$ **SSRS$_2$ - SSRS$_1$**

One Model for each Subscale: *One Model for each Scale:*
Intrapersonal, Interpersonal,   *Social Skills, Problem*
Stress Management,   *Behaviors*
Adaptability

Figure 5.

Concerns Profile for Year 1 Cluster 1, "Self" Concerns
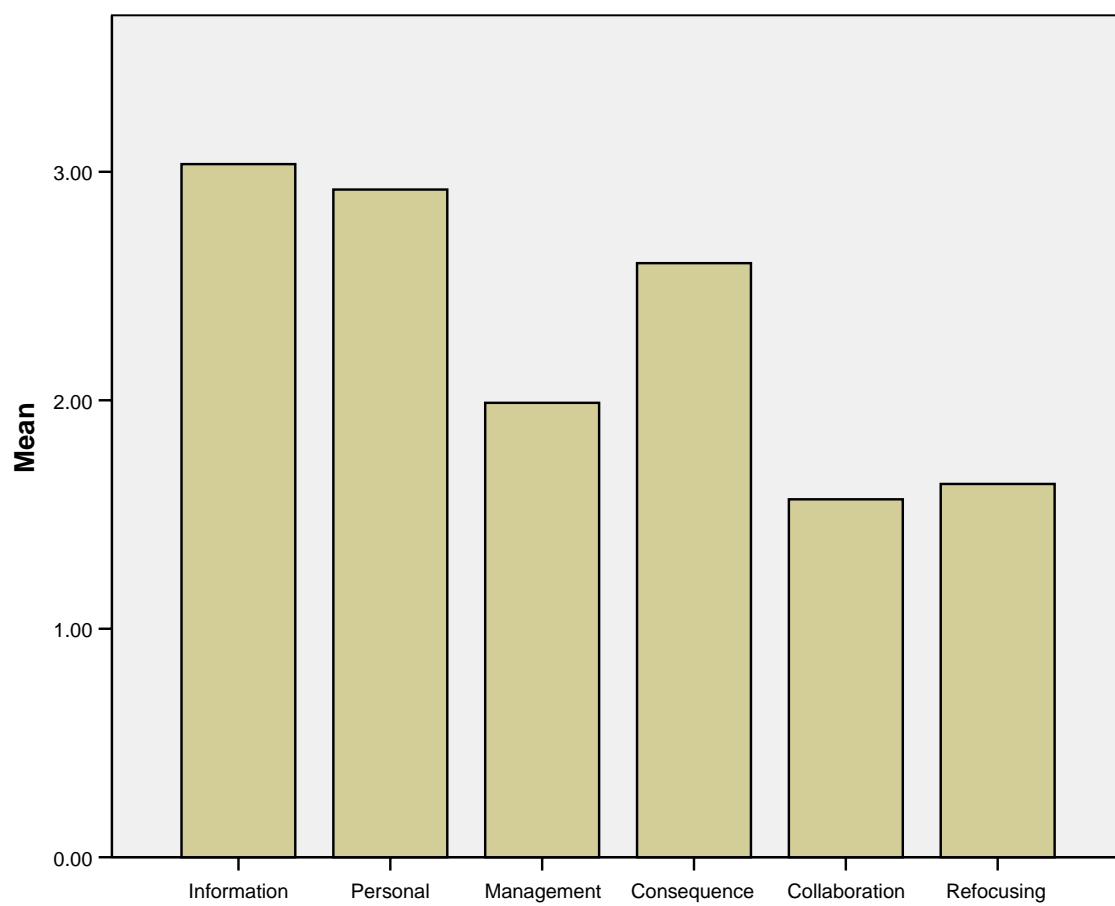
Figure 6.

Concerns Profile for Year 1 Cluster 2, "Consequence & Refocusing" Concerns
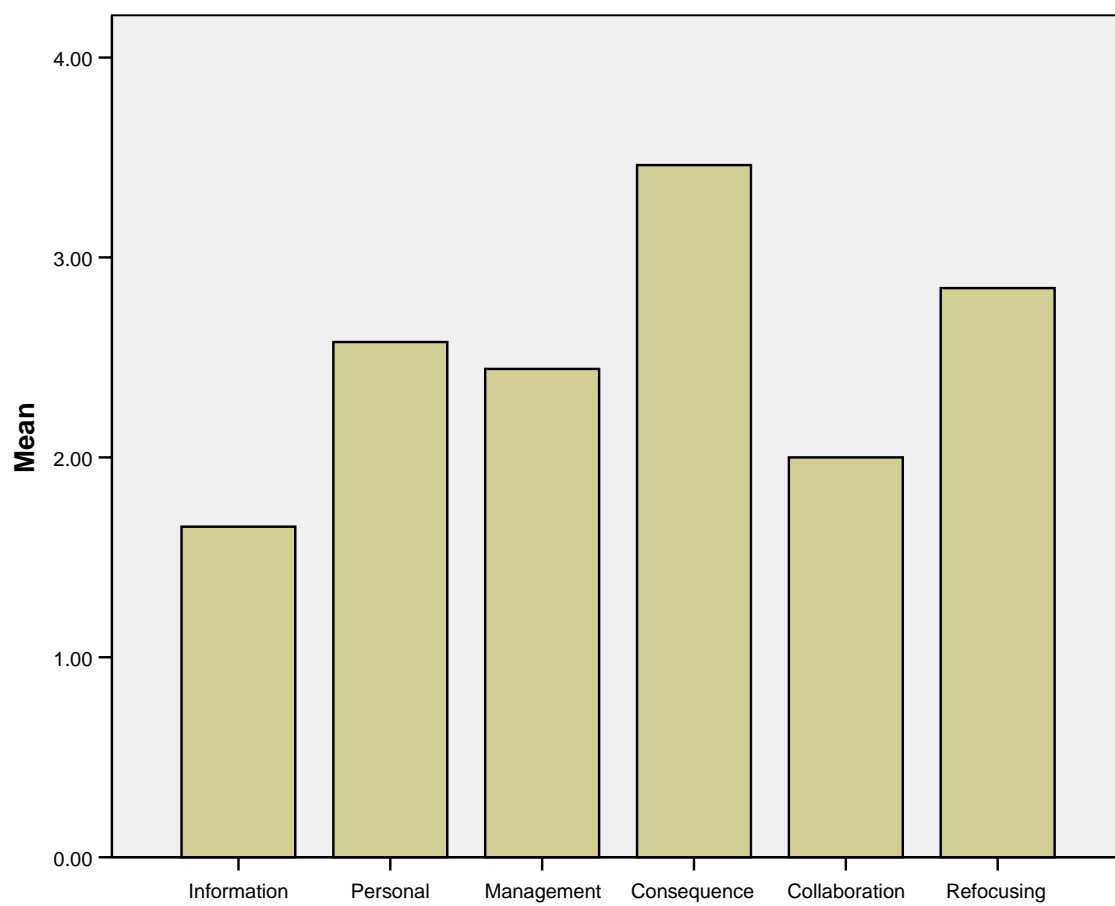
Figure 7.

*Concerns Profile for Year 1 Cluster 3, "Impact" Concerns*
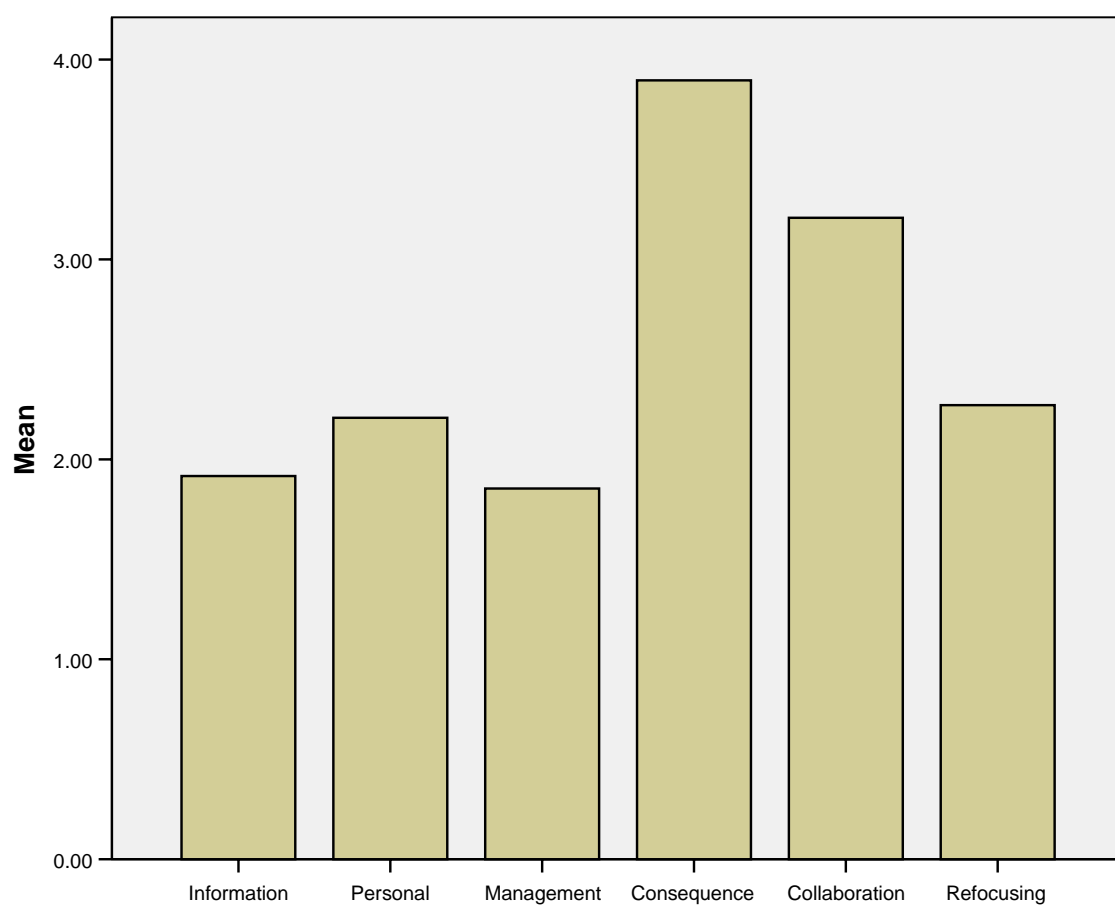
Figure 8.

Concerns Profile for Year 1 Cluster 4, "Self & Staff" Concerns

1
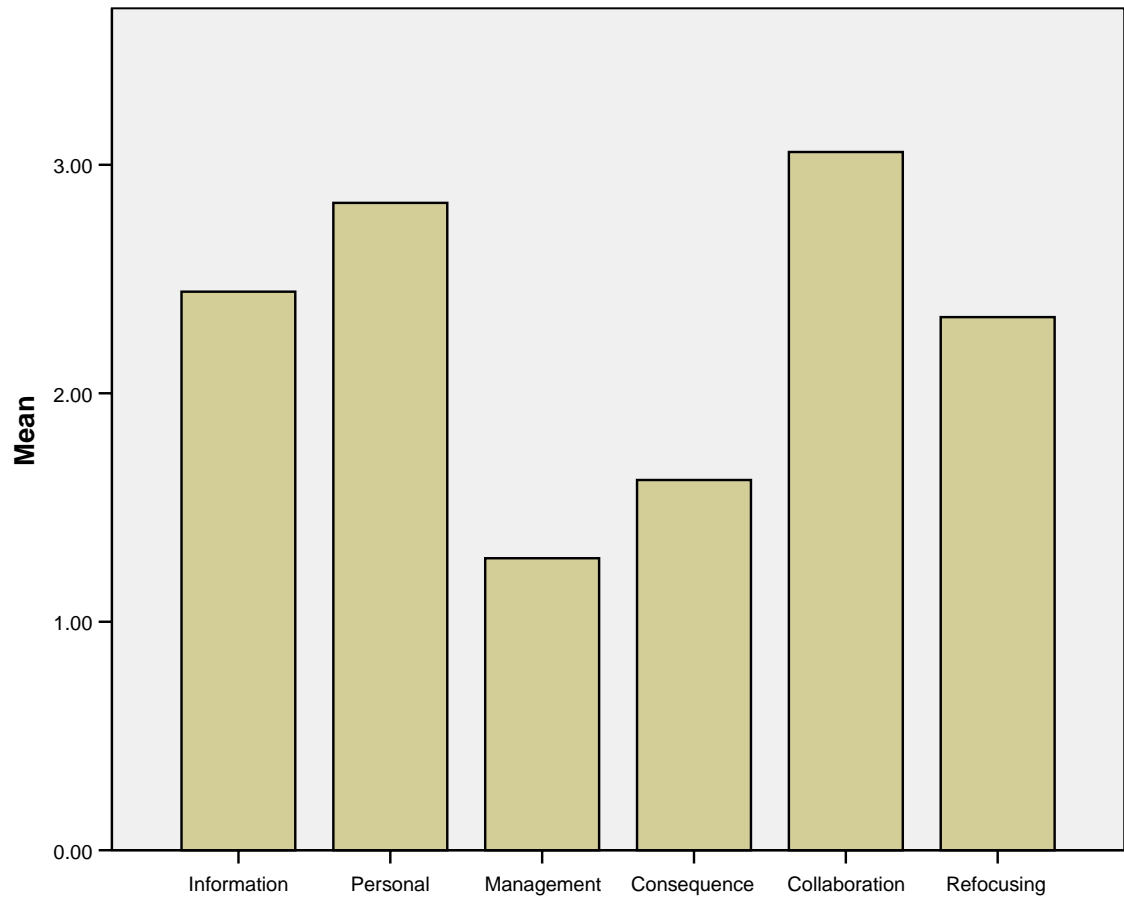
Figure 9.

Concerns Profile for Year 2 Cluster 1, "Management" Concerns
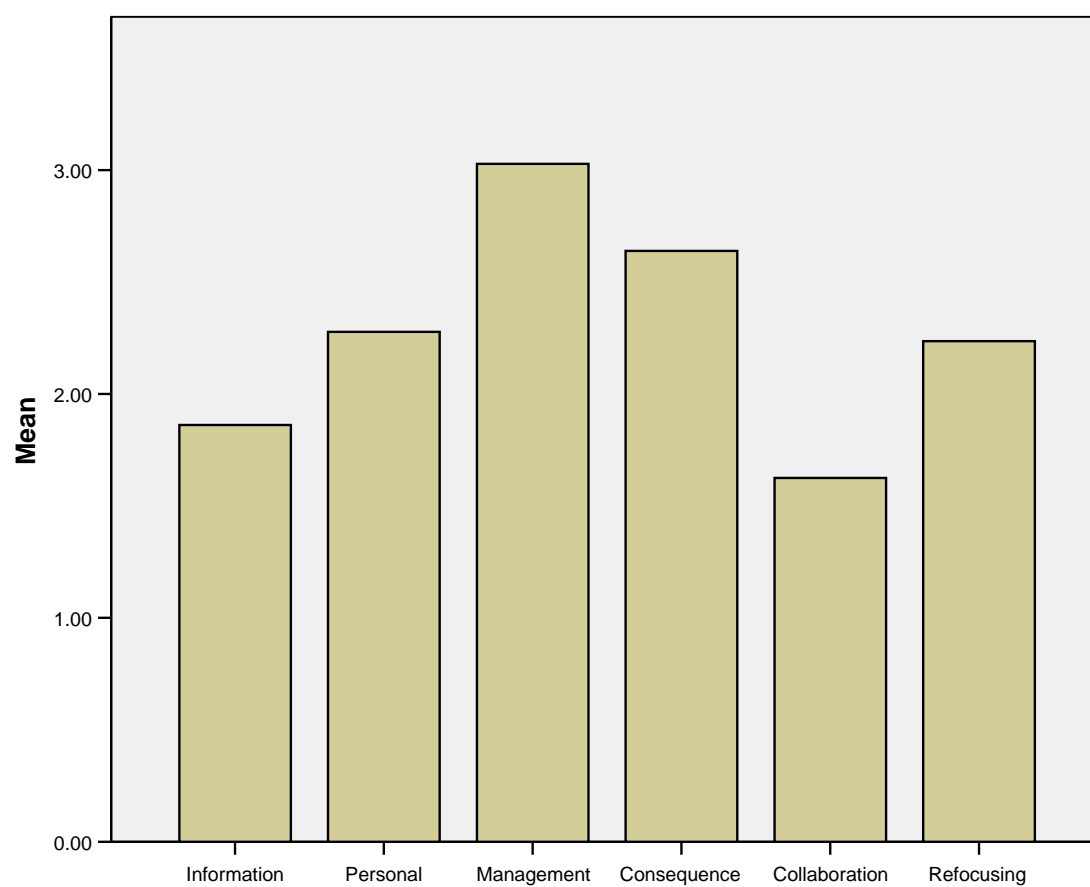
Figure 10.

Concerns Profile for Year 2 Cluster 2, "Self & Impact" Concerns
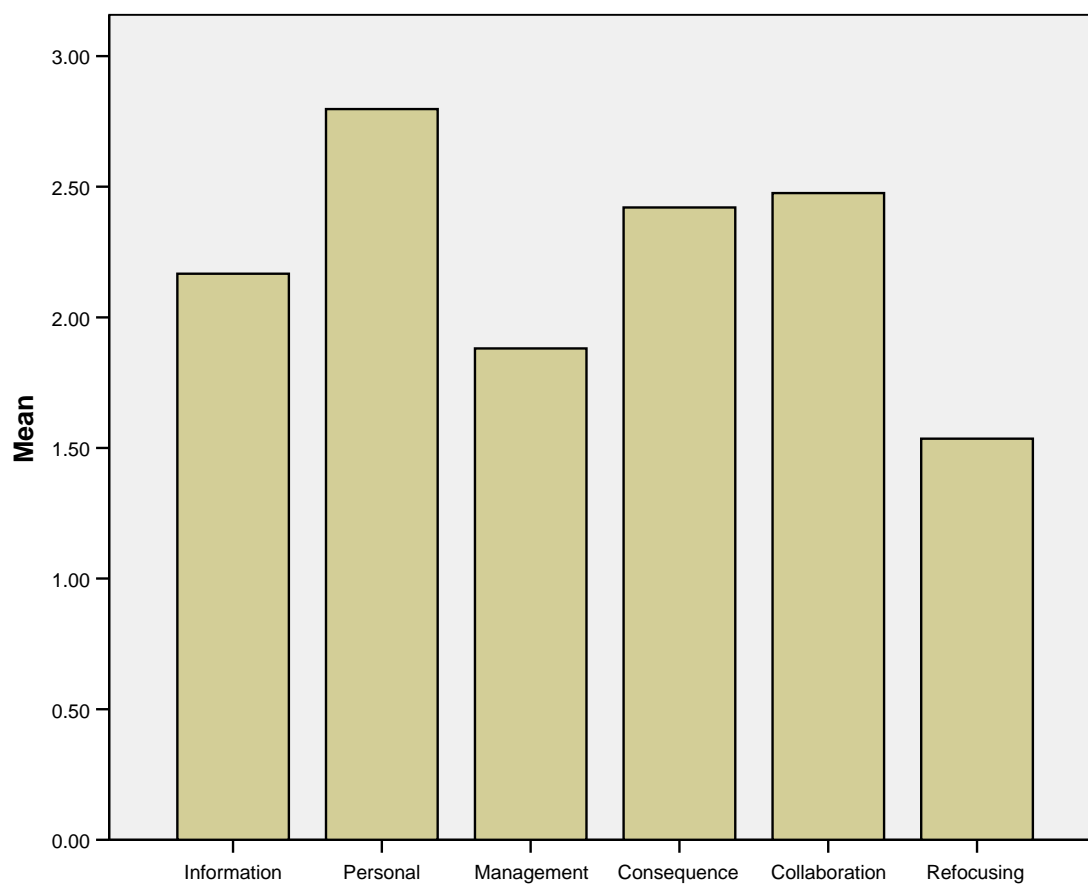
Figure 11.

Concerns Profile for Year 2 Cluster 3, "Consequence & Refocusing" Concerns
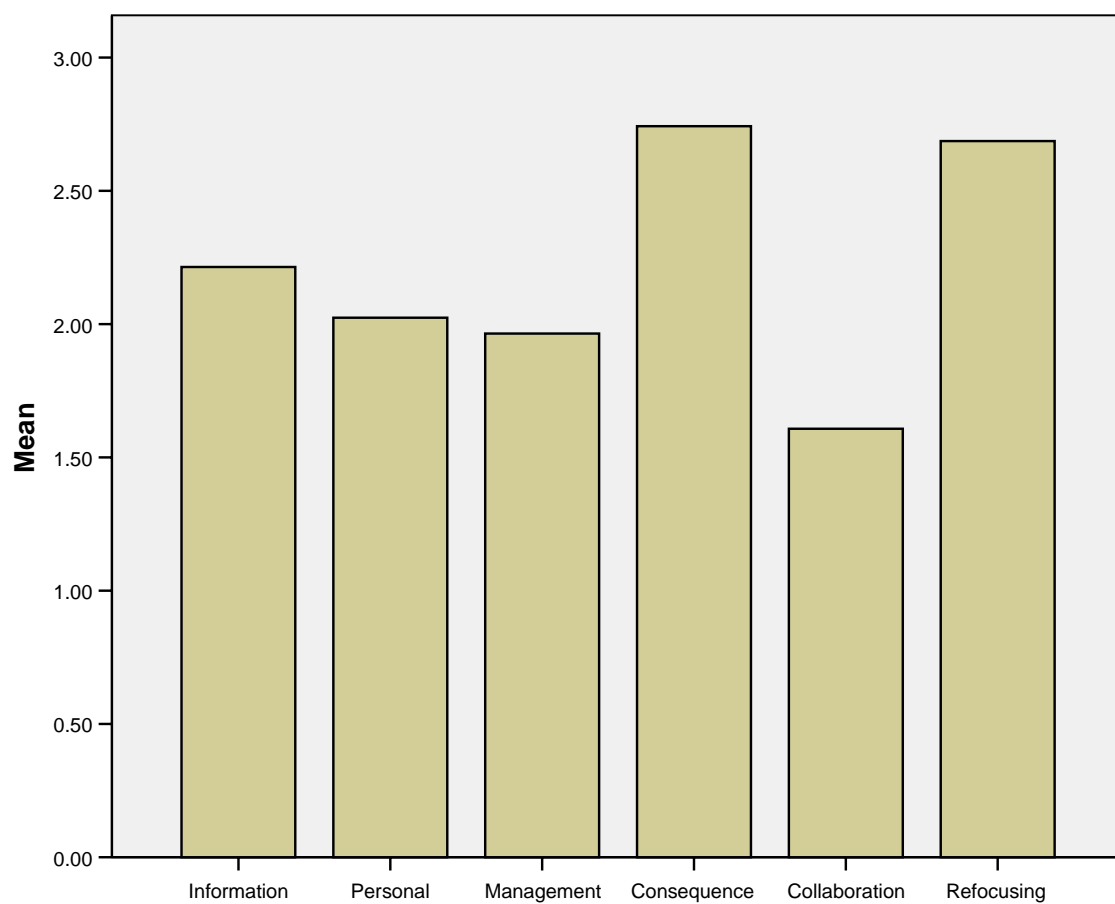
Figure 12.

Concerns Profile for Year 2 Cluster 4, "Impact" Concerns
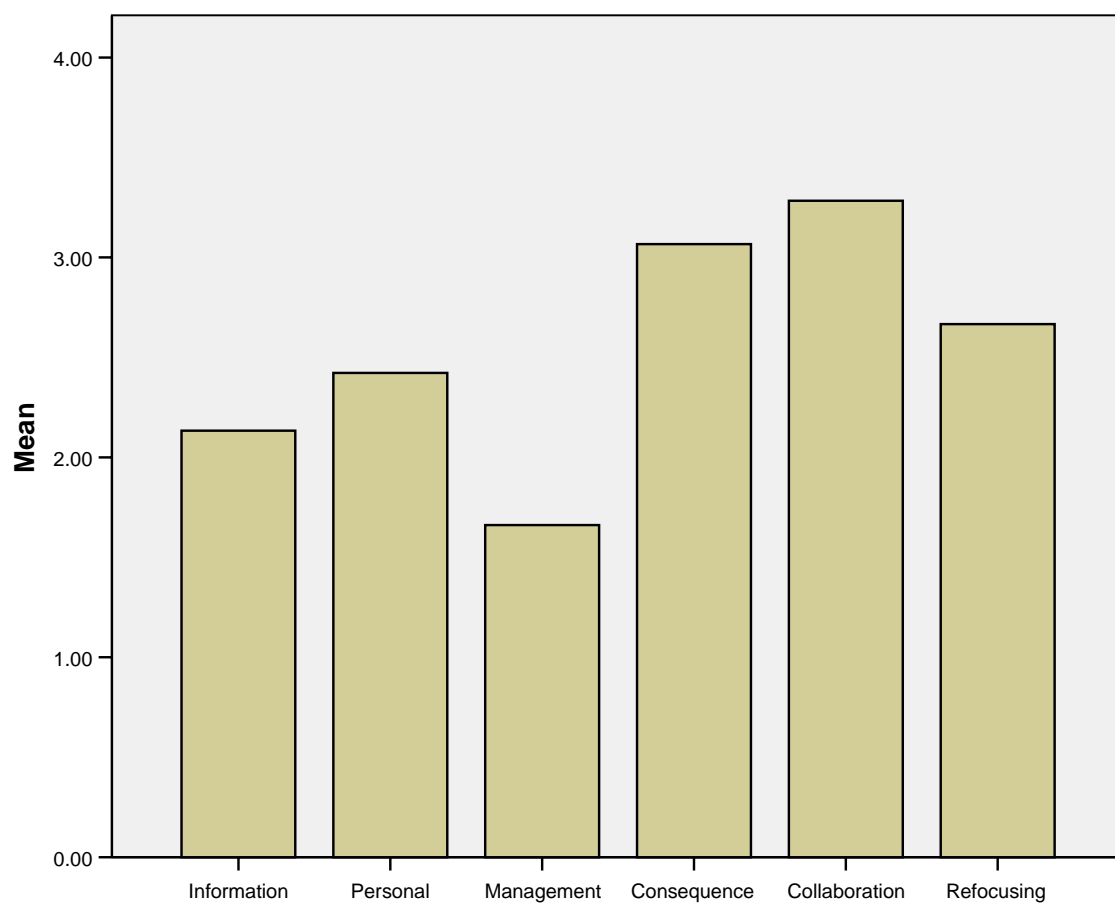
Figure 13.

Mean Intrapersonal Gain Scores (with 95 Percent Confidence Intervals) by Year 1

Teacher Concerns Clusters

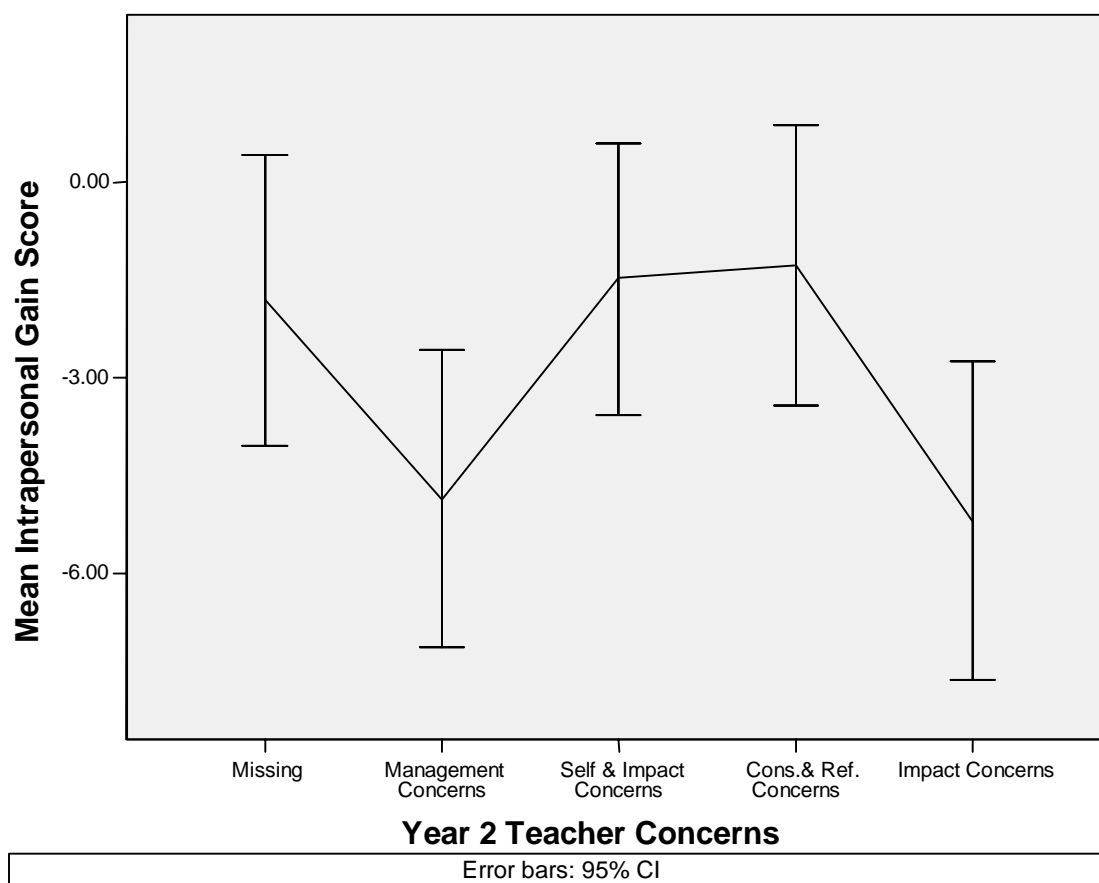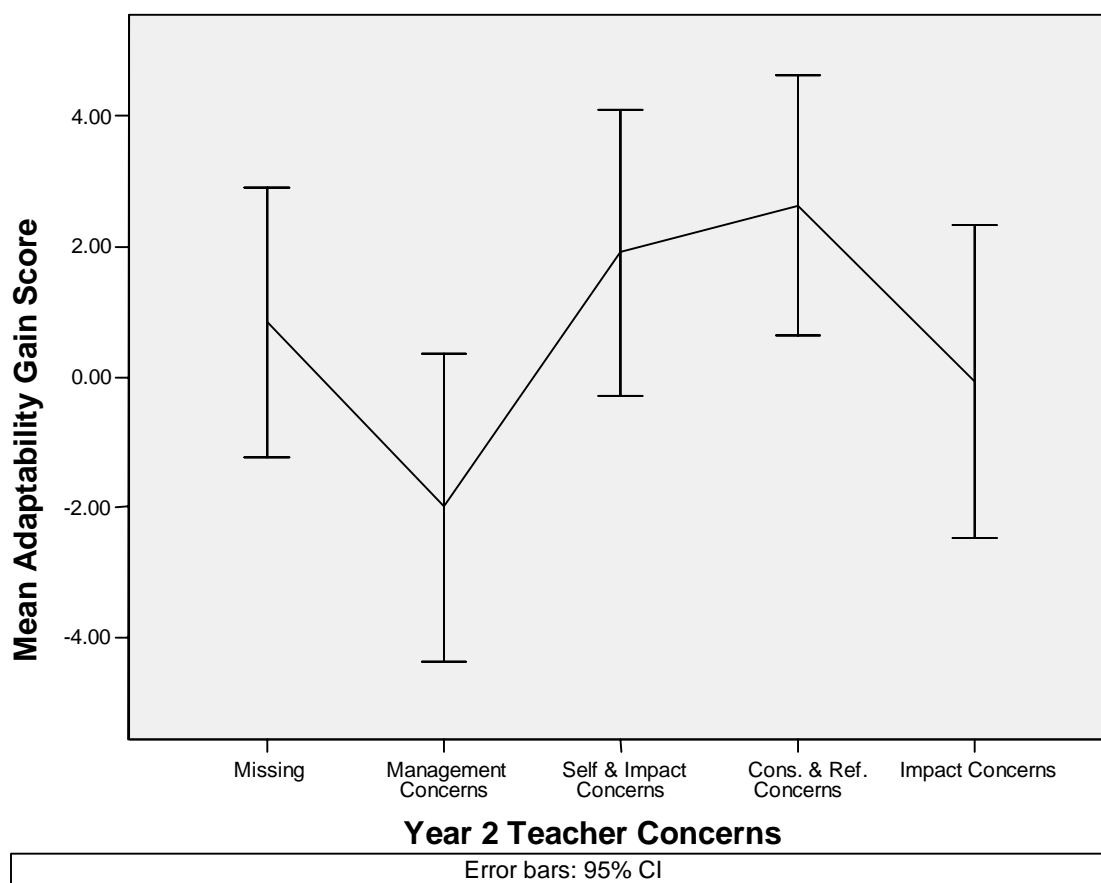Error bars: 95% CI
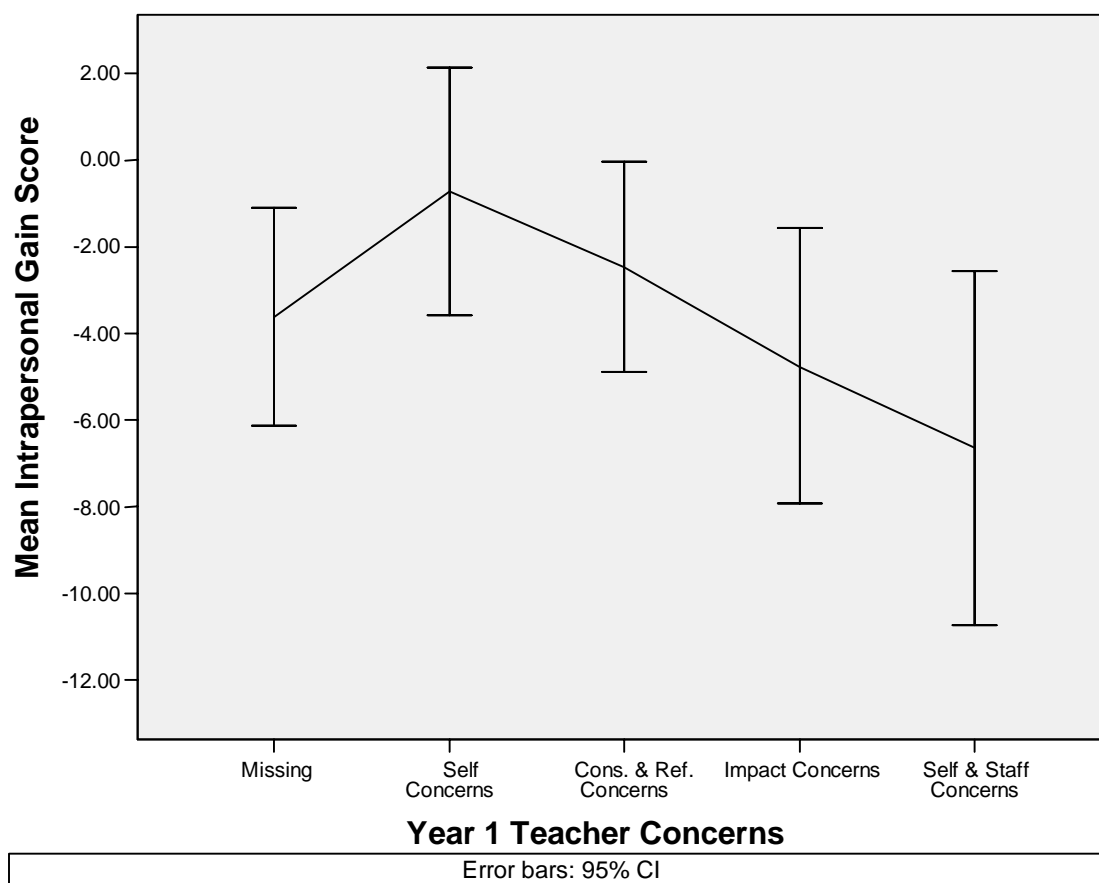
Figure 14.

Mean Social Skills Gain Scores (with 95 Percent Confidence Intervals) by Year 1

Teacher Concerns Clusters
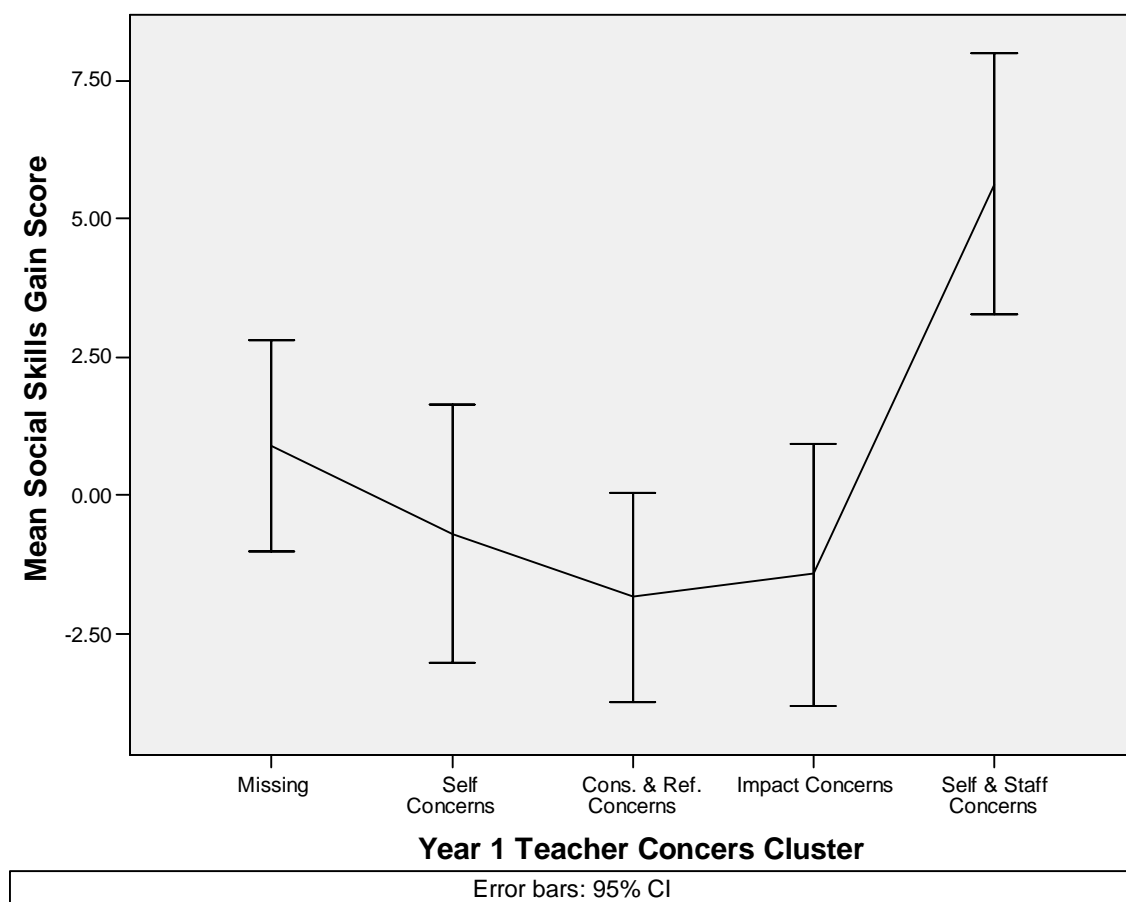
Figure 15.

Mean Problem Behavior Gain Scores (with 95 Percent Confidence Intervals) by Year 1

Teacher Concerns Clusters
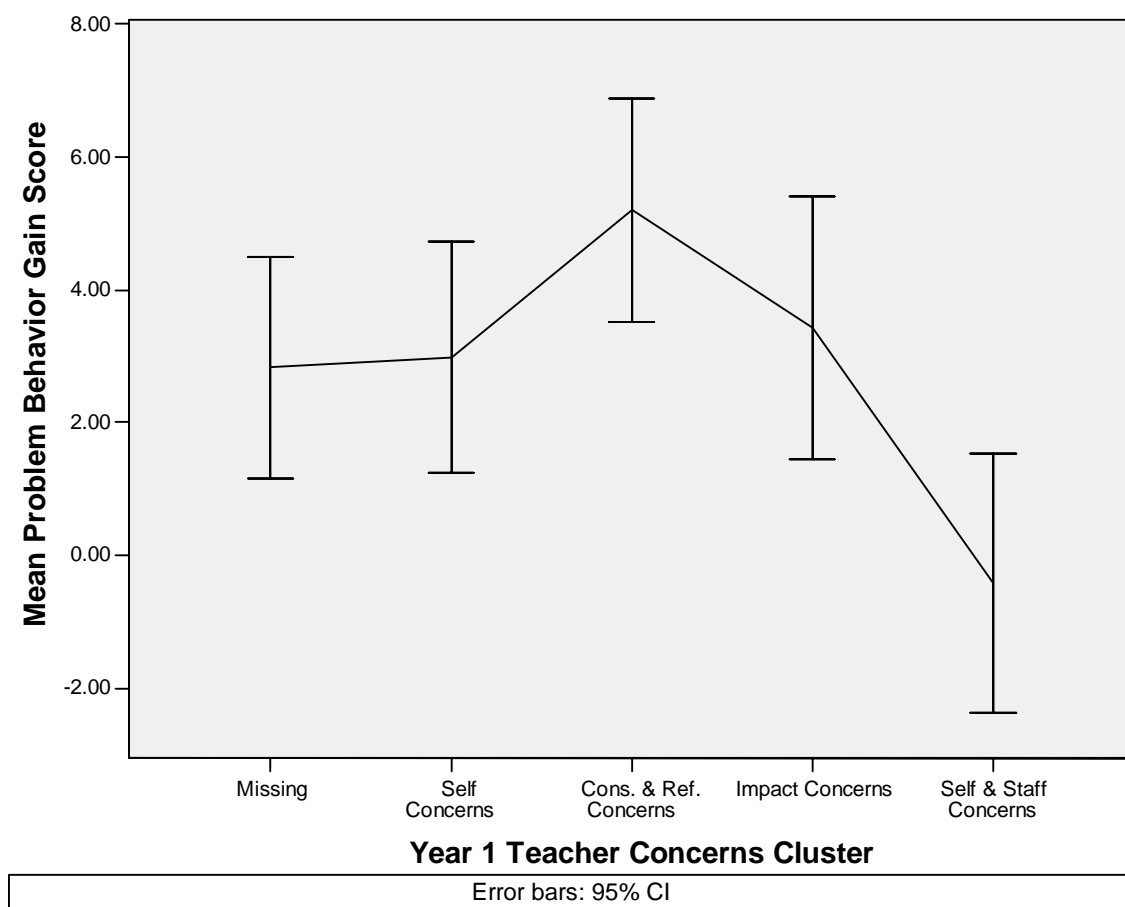
Figure 16.

Mean Intrapersonal Gain Scores (with 95 Percent Confidence Intervals) by Year 2

Teacher Concerns Clusters

Figure 17.

Mean Adaptability Gain Scores (with 95 Percent Confidence Intervals) by Year 2

Teacher Concerns Clusters

Figure 18.

Mean Social Skills Gain Scores (with 95 Percent Confidence Intervals) by Year 2
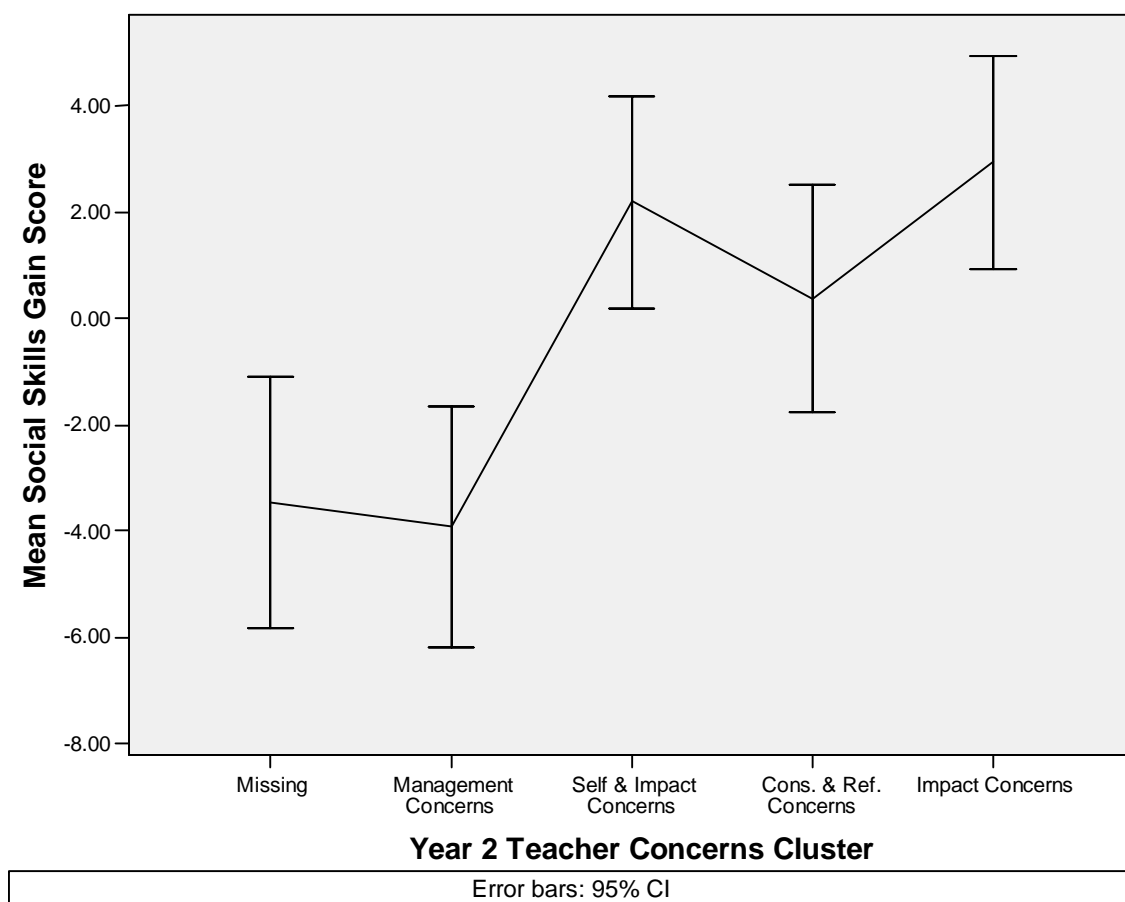
Teacher Concerns Clusters

Figure 19.

Mean Longitudinal Intrapersonal Gain Scores (with 95 Percent Confidence Intervals) by
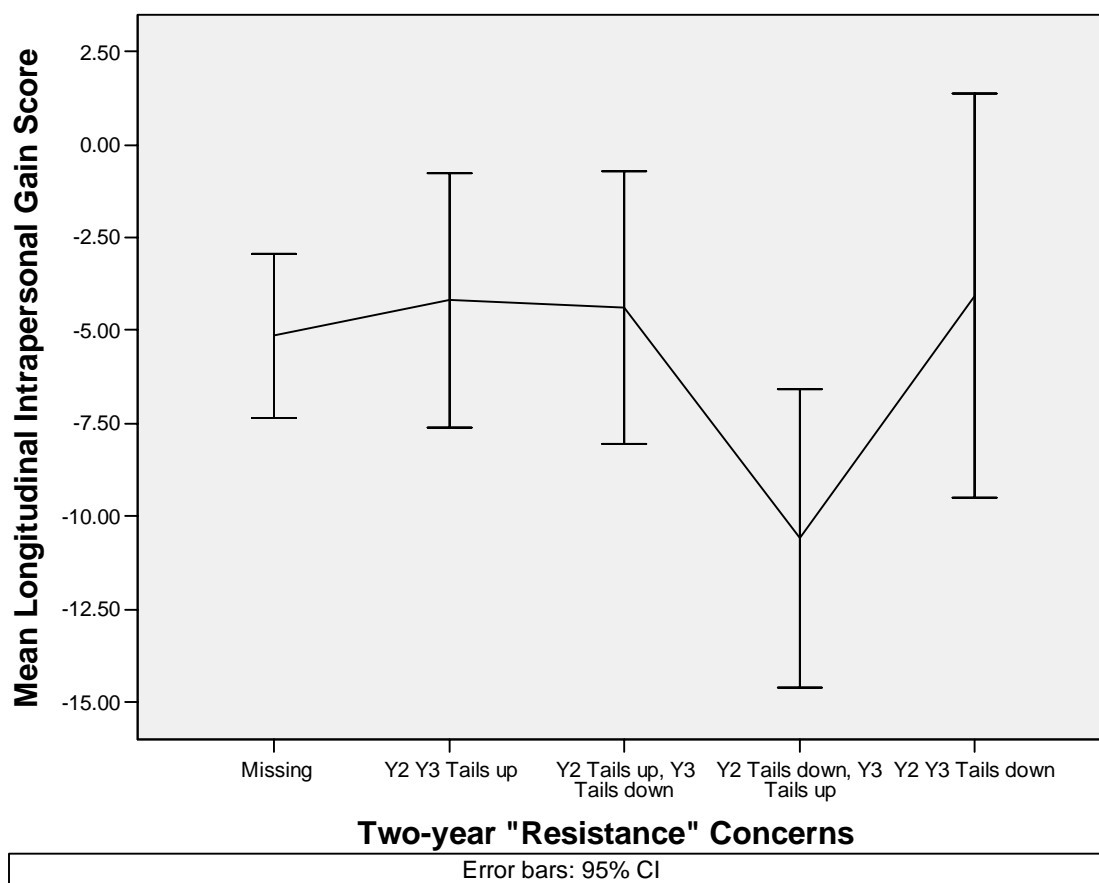
Cumulative "Resistance" Teacher Concerns Pattern

Figure 20.

Mean Longitudinal Adaptability Gain Scores (with 95 Percent Confidence Intervals) by

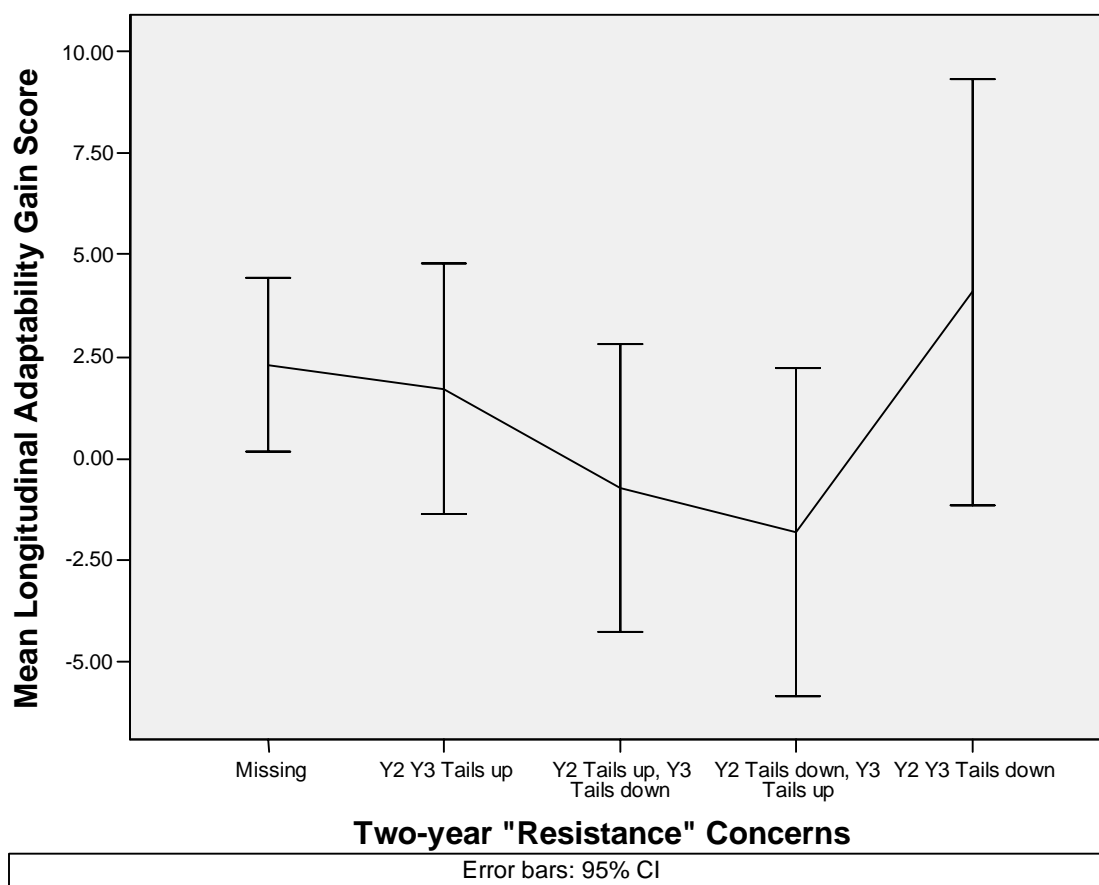*Cumulative "Resistance" Teacher Concerns Pattern*

Figure 21.

Mean Longitudinal Social Skills Gain Scores (with 95 Percent Confidence Intervals) by

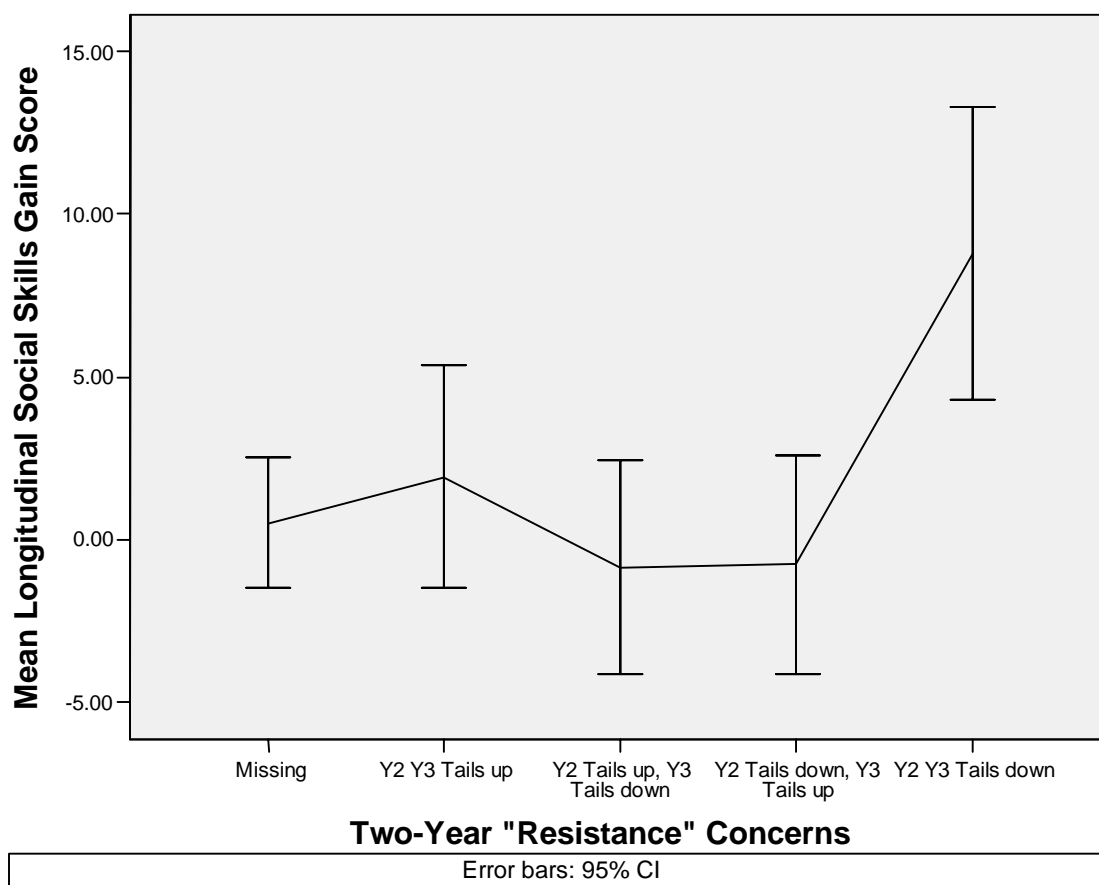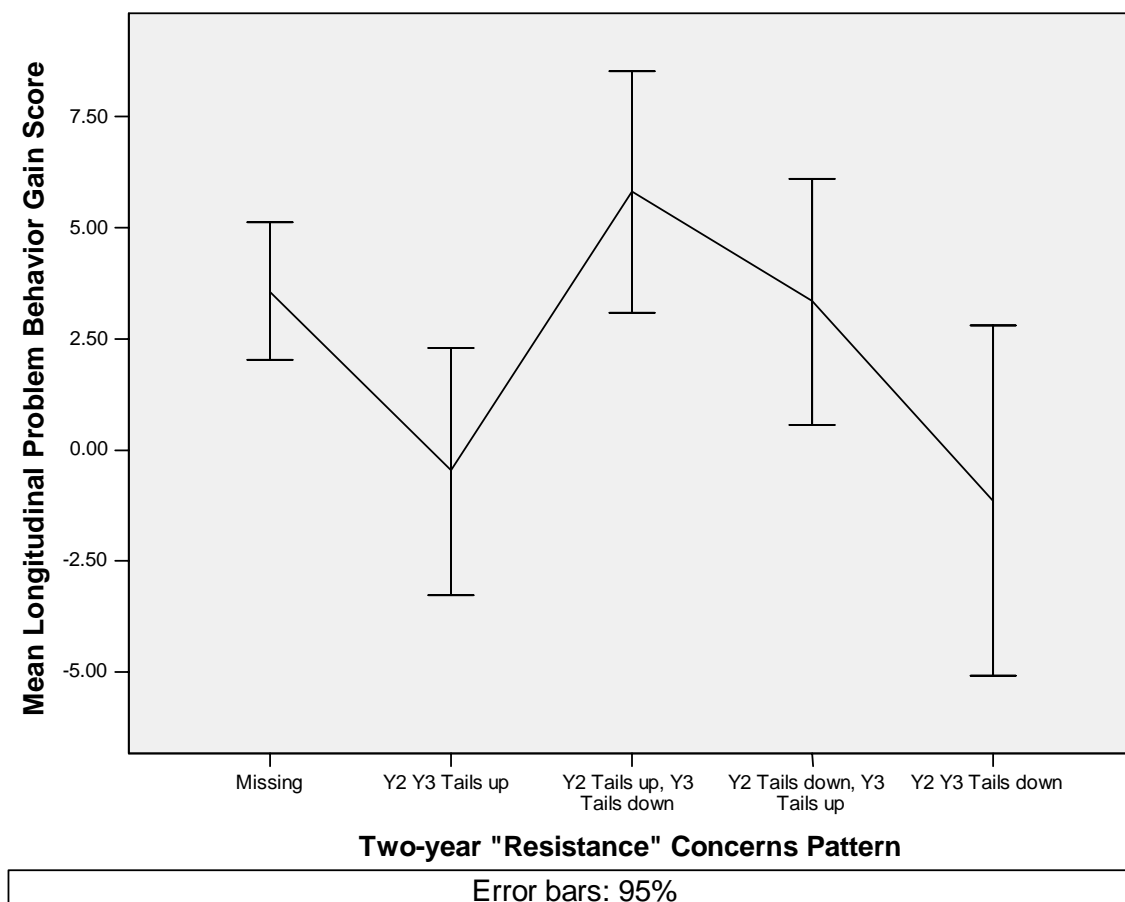*Cumulative "Resistance" Teacher Concerns Pattern*

Figure 22.

Mean Longitudinal Problem Behavior Gain Scores (with 95 Percent Confidence

Intervals) by Cumulative "Resistance" Teacher Concerns Pattern

REFERENCES

Anderson, S. E. (1997). Understanding teacher change: Revisiting the Concerns-Based Adoption Model. *Curriculum Inquiry*, 27(3), 331-367.

Arsenio, W. F., & Lemerise, E. A. (2004). Aggression and Moral Development: Integrating Social Information Processing and Moral Domain Models. *Child Development, 75*(4), 987-1002.

Bailey, D. B., & Palsha, S. A. (1992). Qualities of the Stages of Concern Questionnaire and implications for educational innovations. *Journal of Educational Research, 85*(4), 226-232

Bandura, A. (1973). *Aggression: A Social Learning Analysis*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. Upper Saddle River, NJ: Prentice-Hall, Inc.

Bar-On, R., & Parker, J. D. A. (2000). *BarOn Emotional Quotient Inventory: Youth Version (BarOn EQ-i:YV) - Technical Manual*. North Tonawanda, NY: Multi-Health Systems, Inc.

Brackett, M. A., & Mayer, J. D. (2003). Convergent, discriminant, and incremental validity of competing measures of emotional intelligence. *Personality and Social Psychology Bulletin, 29*, 1147-1158.

Brackett, M. A., Rivers, S. E., Shiffman, S., Lerner, N., & Salovey, P. (2006). Relating emotional abilities to social functioning: A comparison of self-report and performance measures of emotional intelligence. *Journal of Personality and Social Psychology, 91*(4), 780-795.

CASEL. (2003). *Safe and sound: An education leader's guide to evidence-based social and emotional learning (SEL) programs*. Chicago, IL: Collaborative for Academic, Social, and Emotional Learning (CASEL).

Chaplain, R. P. (2000). Beyond exam results? Differences in the social and psychological perceptions of young males and females at school. *Educational Studies, 26*(2), 177-190.

Chen, H. (1998). Theory-driven evaluations. *Advances in Educational Productivity, 7*, 15-34.

Cheung, D., Hattie, J., & Ng, D. (2001). Reexamining the Stages of Concern Questionnaire: A test of alternative models. *The Journal of Educational Research, 94*(4), 226-236.

Clark, L., & Elliott, S. N. (1988). The influence of treatment strength information on knowledgeable teachers' pretreatment evaluations of social skills training methods. *Professional School Psychology, 3*(4), 241-251.

Clements, M. A., Reynolds, A., & Hickey, E. (2004). Site-level predictors of children's school and social competence in the Chicago Child-Parent Centers. *Early Childhood Research Quarterly, 19*(2), 273-296.

Cohen, J. (1977). *Statistical power analysis for the behavior sciences*. Hillsdale, NJ: Erlbaum.

Cohen, J. (2006). Social, emotional, ethical, and academic education: Creating a climate for learning, participating in democracy, and well-being. *Harvard Educational Review, 76*(2), 201-237.

Davis, N. J. (2002). The promotion of mental health and the prevention of mental and behavioral disorders: Surely the time is right. *Journal of Emergency Mental Health, 4*(1), 40.

den Brok, P., Brekelmans, M., & Wubbels, T. (2004). Interpersonal Teacher Behaviour and Student Outcomes. *School Effectiveness and School Improvement, 15*(3-4), 407-442.

Dilworth, J. E., Mokrue, K., & Elias, M. J. (2002). The efficacy of a video-based teamwork-building series with urban elementary school students: A pilot investigation. *Journal of School Psychology, 40*(4), 329-346.

Dodge, K. A., & Rabiner, D. L. (2004). Returning to Roots: On Social Information Processing and Moral Development. *Child Development, 75*(4), 1003-1008.

Domitrovich, C. E., & Greenberg, M. T. (2000). The study of implementation: Current findings from effective programs that prevent mental disorders in school-aged children. *Journal of Educational and Psychological Consultation, 11*(2), 193-221.

Durlak, J. A., & Wells, A. M. (1997). Primary prevention mental health programs for children and adolescents: A meta-analytic review. *American Journal of Community Psychology, 25*(2), 115-152.

Elias, M. J., & Bruene-Butler, L. (2005). *Social decision making, social problem solving: A curriculum for academic, social, and emotional learning: Grades 2-3*. Champaign, IL: Research Press.

Elias, M. J., & Clabby, J. F. (1992). *Building social problem-solving skills: Guidelines from a school-based program*. San Francisco, CA: Jossey-Bass.

Elias, M. J., Gara, M., Schuyler, T., Branden-Muller, L., & Sayette, M. (1991). The promotion of social competence: Longitudinal study of a preventive school-based program. *American Journal of Orthopsychiatry, 61*, 409-417.

Elias, M. J., & Tobias, S. E. (1996). *Social Problem Solving: Interventions in the Schools*. New York: The Guilford Press.

Elias, M. J., Zins, J. E., Weissberg, R. P., Frey, K. S., Greenberg, M. T., Haynes, N. M., et al. (1997). *Promoting social and emotional learning: Guidelines for educators*. Alexandria, VA: Association for Supervision and Curriculum Development.

Elliott, S. N. (1988). Acceptability of behavioral interventions: Review of variables that influence treatment selection. *Professional Psychology: Research and Practice, 19*, 68-80.

Elliott, S. N., & Treuting, M. V. B. (1991). The Behavior Intervention Rating Scale: Development and Validation of a Pretreatment Acceptability and Effectiveness Measure. *Journal of School Psychology, 29*(1), 43-51.

Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation Research: A Synthesis of the Literature*. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network.

Forgatch, M. S. (2003). Implementation as a Second Stage in Prevention Research. *Prevention & Treatment, 6*(1), No Pagination Specified.

Fuller, F. F. (1969). Concerns of teachers: A developmental conceptualization. *American Educational Research Journal, 6*(2), 207-226.

Gagnon, M.-P., Sanchez, E., & Pons, J. M. V. (2006). From recommendation to action: Psychosocial factors influencing physician intention to use Health Technology Assessment (HTA) recommendations [Electronic Version]. *Implementation Science, 1*. Retrieved September 16, 2006 from http://www.implementationscience.com/content/pdf/1748-5908-1-8.pdf.

George, A. A., Hall, G. E., & Uchiyama, K. (2000). Extent of implementation of a standards-based approach to teaching mathematics and students outcomes. *Journal of Classroom Interaction, 35*(1), 8-25.

Ghaith, G., & Yaghi, H. (1997). Relationships among experience, teacher efficacy, and attitudes toward the implementation of instructional innovation. *Teaching and Teacher Education, 13*(4), 451-458.

Goh, S. C., & Fraser, B. J. (2000). Teacher Interpersonal Behavior and Elementary Students' Outcomes. *Journal of Research in Childhood Education, 14*(2), 216-231.

Greenberg, M. T., Domitrovich, C. E., Graczyk, P. A., & Zins, J. E. (2005). The study of implementation in school-based preventive interventions: Theory, research, and practice. Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration.

Greenberg, M. T., Weissberg, R. P., Utne O'Brien, M., Zins, J. E., Fredericks, L., Resnik, H., et al. (2003). Enhancing school-based prevention and youth development through coordinated social, emotional, and academic learning. *American Psychologist, 58*(6/7), 466-474.

Gresham, F. M., & Elliott, S. N. (1990). *The Social Skills Rating System*. Circle Pines, MN: American Guidance Systems.

Hair, J. F., Jr., & Black, W. C. (2000). Cluster Analysis. In L. G. Grimm & P. R. Yarnold (Eds.), *Reading and Understanding More Multivariate Statistics* (pp. 147-205). Washington, D. C.: American Psychological Association.

Hall, G. E., George, A. A., & Rutherford, W. L. (1977). *Measuring Stages of Concern about the Innovation: A Manual for Use of the SoC Questionnaire*. Austin, TX: The University of Texas.

Hall, G. E., & Hord, S. M. (1987). *Change in Schools: Facilitating the Process*. Albany, NY: State University of New York Press.

Hall, G. E., & Hord, S. M. (2006). *Implementing Change: Patterns, Principles, and Potholes* (2 ed.). New York, NY: Allyn and Bacon / Pearson Education.

Hallmark Corporation Foundation. (1994). *Talking with TJ: A New Educational Resource to Teach Teamwork, Cooperation, and Conflict Resolution*. Omaha, NE: Author.

Han, S. S., & Weiss, B. (2005). Sustainability of teacher implementation of school-based mental health programs. *Journal of Abnormal Child Psychology, 33*(6), 665-679.

Kallestad, J. H., & Olweus, D. (2003). Predicting Teachers' and Schools' Implementation of the Olweus Bullying Prevention Program: A Multilevel Study. *Prevention & Treatment, 6*(1), No Pagination Specified.

Kress, J. S., & Elias, M. J. (2006). School-based social and emotional learning programs. In K. A. Renninger, I. E. Sigel, W. Damon & R. M. E. Lerner (Eds.), *Handbook of Child Psychology*, 6th ed.: Vol. 4, *Child Psychology in Practice* (Vol. 4, pp. 592-618). Hoboken, NJ: John Wiley & Sons, Inc.

Lofton, G. G., Ellett, C., Hill, F., & Chauvin, S. (1998). Five years after implementation: The role of the district in maintaining an ongoing school improvement process. *School Effectiveness and School Improvement, 9*(1), 58-69.

Mokrue, K., Elias, M. J., & Bry, B. H. (2005). Dosage Effect and the Efficacy of a Video-Based Teamwork-Building Series with Urban Elementary School Children. *Journal of Applied School Psychology, 21*(1), 67-97.

Nastasi, B. K. (2002). The realities of large-scale change efforts. *Journal of Educational and Psychological Consultation, 13*(3), 219-226.

Nation, M., Crusto, C., Wandersman, A., Kumpfer, K. L., Seybolt, D., Morrissey-Kane, E., et al. (2003). What works in prevention: Principles of effective prevention programs. *American Psychologist, 58*(6/7), 449-456.

Nucci, L. P. (2001). *Education in the Moral Domain*. [Electronic Version]. Retrieved November 29, 2004, from www.amazon.com.

Overall, J. E., Gibson, J. M., & Novy, D. M. (1993). Population recovery capabilities of 35 cluster analysis methods. *Journal of Clinical Psychology, 49*(4), 459-470.

Pellegrini, D. S. (1985). Social cognition and competence in middle childhood. *Child Development, 56*(1), 253-264.

Rausch, J. R., Maxwell, S. E., & Kelley, K. (2003). Analytic methods for questions pertaining to a randomized pretest, posttest, follow-up design. *Journal of Clinical Child and Adolescent Psychology, 32*(3), 467-486.

Romasz, T. E., Kantor, J. H., & Elias, M. J. (2004). Implementation and evaluation of urban school-wide social-emotional learning programs. *Evaluation and Program Planning, 27*(1), 89-103.

Ross, J. A. (1995). Strategies for Enhancing Teachers' Beliefs in Their Effectiveness: Research on a School Improvement Hypothesis. *Teachers College Record, 97*(2), 227-251.

Shechtman, Z., Levy, M., & Leichtentritt, J. (2005). Impact of Life Skills Training on teachers' perceived environment and self-efficacy. *The Journal of Educational Research, 98*(3), 144-154.

Shochet, I. M., Dadds, M. R., Holland, D., Whitefield, K., Harnett, P. H., & Osgarby, S. M. (2001). The efficacy of a universal school-based program to prevent adolescent depression. *Journal of Clinical Child Psychology, 30*(3), 303-315.

Skara, S., Rohrbach, L. A., Sun, P., & Sussman, S. (2005). An evaluation of the fidelity of implementation of a school-based drug abuse prevention program: Project toward no drug abuse (TND). *Journal of Drug Education, 35*(4), 305-329.

Sladek, R. M., Phillips, P. A., & Bond, M. J. (2006). Implementation science: A role for parallel dual processing models of reasoning? [Electronic Version]. *Implementation Science, 1*. Retrieved September 16, 2006 from http://www.implementationscience.com/content/pdf/1748-5908-1-12.pdf.

Spielmann, G., & Radnofsky, M. L. (1997). Power structures, change, and the illusion of democracy: A semiotic study of leadership and policy-making. Paper presented at the Annual Meeting of the American Educational Research Association.

Tarr, J. E. (2001). Plainfield Board of Education community needs assessment: Final report on an assessment of children and families' particularlized needs and

community capacity. New Brunswick, NJ: Graduate School of Education, Rutgers, the State University of New Jersey.

Taylor, C. A., Liang, B., Tracy, A., J., Williams, L. M., & Seigle, P. (2002). Gender differences in middle school adjustment, physical fighting, and social skills: Evaluation of a social competency program. *Journal of Primary Prevention, 23*(2), 259-272.

Weinfurt, K. P. (2000). Repeated measures analyses: ANOVA, MANOVA, and HLM. In L. G. Grimm & P. R. Yarnold (Eds.), *Reading and Understanding More Multivariate Statistics* (pp. 317-361). Washington, D. C.: American Psychological Association.

Weissberg, R. P. (2005, August). *Social and Emotional Learning for School and Life Success.* Paper presented at the Annual Convention of the American Psychological Association, Washington, D. C.

Ziberna, A., Kejzar, N., & Golob, P. (2004). A comparison of different approaches to hierarchical clustering of ordinal data. *Metodoloski Zvezki, 1*(1), 57-73.

Zins, J. E., Bloodworth, M. R., Weissberg, R. P., & Walberg, H. J. (2004). The scientific base linking social and emotional learning to school success. In J. E. Zins, R. P. Weissberg, M. C. Wang & H. J. Walberg (Eds.), *Building Academic Success on Social and Emotional learning: What does the Research Say?* New York: Teachers College Press.

Curriculum Vita

Sarah Jean Parker, M.S.
1793 Riverside Dr. Apt. 6E
New York, NY 10034
(917) 696-7534

EDUCATION

Rutgers, The State University of New Jersey, Piscataway, NJ: Doctor of Philosophy in
Clinical Psychology, October 2008. Master of Science in Psychology, May 2005.

Columbia University, New York, NY: Postbaccalaureate Certificate in Psychology, May
2002. GPA: 4.0.

University of California, Berkeley, CA: Bachelor of Arts in English, May 1996. Highest
Honors in English; Highest Distinction in General Scholarship. GPA: 3.9.

CLINICAL EXPERIENCE

Westchester Jewish Community Services (WJCS), Yonkers and White Plains, NY.
Psychology intern. September 2007–August 2008.

Center for Cognitive-Behavioral Psychotherapy, New York, NY. Predoctoral fellow. July
2004–August 2007.

Rutgers Psychological Clinic, Piscataway, NJ. Clinician. September 2003–September
2004 and September 2006–June 2007.

Rutgers Social and Emotional Learning (SEL) Lab, Piscataway and Plainfield, NJ.
Preventive intervention coordinator. September 2002–June 2005.

Rutgers–Somerset Counseling Project, Piscataway and Somerset, NJ. Co-facilitator,
Girls' Group at Sampson G. Smith Intermediate School. October 2003–June
2005.

HeartBridge Center for Loss and Transition, New York, NY. Facilitator, Survivors of
Suicide Support Group. April 2000–September 2002.

Children's Day Unit, New York State Psychiatric Institute (NYSPI), New York, NY.
Aide. September 2000–February 2001.

RESEARCH EXPERIENCE

Rutgers University, Piscataway, NJ. Investigator, Dissertation Study: "Teacher concerns
and elementary student outcomes in a school-based preventive intervention."
January 2006–August 2007.

Rutgers SEL Lab, Piscataway and Plainfield, NJ. Research coordinator for Maurice J.
Elias, Ph.D. September 2002–August 2005.

Rutgers University, Piscataway, NJ. Investigator, Master's Thesis: "Academic and behavioral effects of extending a character education program in urban, low-SES middle schools." September 2002–May 2005.

Barnard College, Columbia University, New York, NY. Research assistant for Susan Riemer Sacks, Ph.D., on "Girls in Science." January 2001–August 2002.

New York State Psychiatric Institute (NYSPI), New York, NY. Research assistant for Drew Velting, Ph.D., on "DBT for Suicidal Adolescents." October 2001–August 2002.

NYSPI, New York, NY. Research assistant for Madelyn S. Gould, Ph.D., MPH, on "Psychological Autopsy of Adolescent Cluster Suicides" and "An Evaluation of Telephone Crisis Services for Adolescents." August 2000–June 2002.

NYSPI, New York, NY. Project coordinator for Lawrence Amsel, M.D., MPH, on "Pharmacological Treatment of Suicidal Ideation in Adolescents." March 2001–December 2001.

NYSPI, New York, NY. Research assistant for Suzanne Salzinger, Ph.D., on "Child Safety Project." February 2001–May 2001.

TEACHING EXPERIENCE

Rutgers University, Piscataway and New Brunswick, NJ. Teaching assistant and graduate student instructor. September 2002–May 2007.

Barnard College, Columbia University, New York, NY. Teaching assistant, Educational Psychology. September 2001–December 2001.

Seward Park High School, New York, NY. Tutor. February 2000–January 2001.

CLINICAL SUPERVISORY EXPERIENCE

WJCS, Mount Vernon, NY. Psychology supervisor. September 2007–July 2008.

Center for Cognitive-Behavioral Psychotherapy, New York, NY. Predoctoral fellow. July 2004–August 2007.

Rutgers–Somerset Counseling Project, Piscataway and Somerset, NJ. Peer supervisor. September 2006–December 2006.

Rutgers SEL Lab, Piscataway and Plainfield, NJ. Preventive intervention coordinator. September 2002–June 2005.

OTHER WORK EXPERIENCE

National Council on Economic Education, New York, NY. Marketing and communications associate. February 2000–August 2000.

Herbert Smith (an international law firm), Hong Kong, China. Asian region marketing manager. October 1997–October 1999.

Asia Law & Practice (a Euromoney publisher), Hong Kong, China. Books editor. November 1996–September 1997.

The Berkeley Guides (a division of Fodors), Berkeley, CA. Editor. December 1995–October 1996.

PAPERS / PUBLICATIONS

Parker, S. & Klein, D. (2007, November). Teacher concerns and elementary student outcomes in a school-based preventive intervention. In M. J. Elias & Y. Schwab (Chairs), *Efficacy to effectiveness: What can we learn from school-based CBT interventions?* Symposium conducted at the Annual Conference of the Association of Behavioral and Cognitive Therapies.

Elias, M. J., Parker, S., & Rosenblatt, J. L. (2005). Building educational opportunity. In S. Goldstein and R. Brooks (Eds.), Handbook of Resilience. New York: Kluwer Academic/Plenum Publishers.

Elias, M. J., Schoenholz, D., Parker, S., & Bryan, K. (2005, June). Implementing / sustaining social-emotional learning & prevention in urban schools. Poster presented at the 10th Biennial Conference of the Society for Community Research and Action.

Elias, M. J., Parker, S., & Rosenblatt, J. L. (2004, October). Helping students live their Laws of Life and other lessons from social and emotional learning programs. Breakout session, 11th National Forum of the Character Education Partnership.

Axelrod, E., German, M., Parker, S., Sacks, S. (2002, February). Invited Panel Presentation, Annual Conference of the National Council for Research on Women.

Gould, M. S., Harris Munfakh, J. L., Lubell, K., Kleinman, M., Parker, S. (2002). Seeking help from the Internet during adolescence. *Journal of the American Academy of Child & Adolescent Psychiatry, 41*(10), 1182–1189.

Axelrod, E., German, M., Parker, S., Schenck, C., Sacks, S. (2001, April). Sexing Dr. X-Ray: Assessing Adolescents' Attitudes Towards Science. Poster presented at Mount Holyoke College's 54th Annual Undergraduate Psychology Research Conference.