

CORRELATES OF PATHWAYS BETWEEN SCHOOL CLIMATE AND  
SELF-EFFICACY: A STUDY OF TENTH AND ELEVENTH GRADERS  
IN A PUBLIC SCHOOL

by

Russell Krummell, B.A., M.A.

A dissertation submitted to the Graduate Council of  
Texas State University in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy  
with a Major in School Improvement  
May 2020

Committee members:

Larry Price, Chair

Stephen Gordon, Co-Chair

Barry Aidman

Donna Calzada

**COPYRIGHT**

by

Russell Krummell

2020

## **FAIR USE AND AUTHOR'S PERMISSION STATEMENT**

### **Fair Use**

This work is protected by the Copyright Laws of the United States (Public Law 94-553, section 107). Consistent with fair use as defined in the Copyright Laws, brief quotations from this material are allowed with proper acknowledgement. Use of this material for financial gain without the author's express written permission is not allowed.

### **Duplication Permission**

As the copyright holder of this work I, Russell Krummell, authorize duplication of this work, in whole or in part, for educational or scholarly purposes only.

## **ACKNOWLEDGEMENTS**

This dissertation represents four years of nearly continuous and painstaking dedication and is easily the hardest piece of tangible work that I have produced in my lifetime. Now that I have nurtured her and raised her, I am ready to hand over my intellectual offspring to the academic world to join the community of scholarship and hopefully make a positive contribution to the field of education.

I want to thank God, Bahá'u'lláh, the prophet founder of the Bahá'í Faith, and 'Abdu'l-Bahá, the Center of the Covenant, for their guidance and fortitude through the tests and trials, glorious and hopeful vision for a united future for humanity, and personal calling towards excellence and scholarship. I want to thank my dear wife Rose for her initial encouragement to pursue a doctorate and not a second master's degree, her emotional support over these years, and example and inspiration by finishing her own dissertation. I want to thank my children—Hanne Luciel, Hope, and Jazmin—for being patient, understanding, and accommodating with me if I seemed absorbed, distracted, or otherwise mentally occupied during family time. I want to thank my dissertation chairs, Dr. Price and Dr. Gordon, for their wise counsel in limiting the scope of my research and working around my ego, and committee members Dr. Calzada and Dr. Aidman, for their editing and feedback about readability. Finally, I want to thank my mother Concha and my father Arturo who have always supported my professional development emotionally, spiritually through their prayers, and financially through their generous loans and gifts.

## TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS .....	iv
LIST OF TABLES .....	viii
LIST OF FIGURES .....	ix
ABSTRACT.....	x
 CHAPTER	
I. INTRODUCTION .....	1
Statement of the Problem.....	6
Purpose of the Study .....	7
Significance of the Study .....	9
Research Design Perspective .....	10
Epistemology and Theoretical Perspective .....	10
Methodology .....	11
Theoretical Framework .....	12
Assumptions.....	14
Limitations .....	14
Delimitations .....	15
Definitions of Key Terms .....	16
Organization of the Remainder of the Study .....	17
II. LITERATURE REVIEW .....	19
Defining and Differentiating SC and SE .....	19
Defining SC .....	19
Differentiating SC from Similar Constructs .....	21
Defining SE.....	22
Differentiating SE from Similar Constructs .....	23
Developing a Theoretical Framework Relating SC to SE .....	25
The Triadic Model of Reciprocal Determinism (TRMD).....	25
Critiques of SC Theory and Implications for the Present Study ....	28
Critiques of SE Theory and Implications for the Present Study ....	30
Dimensionalizing SC and SE.....	32

Dividing SC into Meaningful Domains .....	33
Dividing SE into Meaningful Domains .....	35
Definition and discussion of ASE .....	38
Definition and discussion of ESE .....	40
Definition and discussion of SSE .....	42
Empirical Research on How SC is Related to SE.....	45
Studies Relating Various Domains of SC and SE .....	45
Studies Relating the TAL Domain of SC and SE .....	46
Studies Relating the INT Domain of SC and SE .....	50
Studies Relating the INE Domain of Sc and SE .....	52
Summary of Literature Review and Need for the Study.....	55
 III. METHODOLOGY .....	 56
Methodology Selection and Justification.....	56
Explanation of Research Design .....	58
Population, Sample, and Setting .....	58
Protection of Human Subjects .....	60
Procedure for Data Capture .....	61
Variables Analyzed .....	64
Instrumentation .....	64
The EDSCLS: Source scale for SC.....	65
The SEQ-C: Source scale for SE .....	67
Treatment of Data and Hypothesis Testing .....	72
Summary of Methodology .....	73
 IV. ANALYSIS.....	 75
Data Collection Results and Respondent Demographics.....	75
Data Screening Procedure.....	76
Reliability Analysis of the SC/SE Survey .....	77
Descriptive Statistics.....	79
Testing Assumptions Prior to a Correlational Analysis.....	80
Correlational Analysis of SC and SE Domains .....	84
Research Question 1 .....	85
Research Question 2 .....	85
Research Question 3 .....	86
Research Question 4 .....	86
Research Question 5 .....	86
Research Question 6 .....	87
Research Question 7 .....	87

Research Question 8 .....	87
Research Question 9 .....	88
Null Hypothesis Zero .....	88
Summary of the Results .....	89
V. DISCUSSION .....	90
Summary of the Study Findings .....	90
Findings for Research Questions .....	91
Additional Findings .....	91
Conclusions .....	93
Conclusions for Research Question Q1 .....	94
Conclusions for Research Question Q2 and Q3 .....	96
Conclusions for Research Question Q4 .....	97
Conclusions for Research Question Q5 .....	99
Conclusions for Research Question Q6 .....	100
Conclusions for Research Question Q7 .....	100
Conclusions for Research Question Q8 .....	101
Conclusions for Research Question Q9 .....	101
Implications for Theory and Practice .....	102
Limitations of Study .....	104
First Limitation .....	104
Second Limitation .....	105
Third Limitation .....	106
Recommendations for School Practice .....	107
Recommendations for Future Research .....	110
First Recommendation .....	110
Second Recommendation .....	111
Third Recommendation .....	112
Fourth Recommendation .....	112
Fifth Recommendation .....	113
Concluding Remarks .....	114
APPENDIX SECTION .....	115
REFERENCES .....	147

## LIST OF TABLES

Table	Page
1. Internal Consistency Reliability of SC/SE Survey Scales.....	79
2. Descriptive Statistics for All Variables (N = 60) .....	80
3. Spearman's rho Correlations Among SC and SE Variables (N = 60).....	85



## LIST OF FIGURES

Figure	Page
1. Representation of the TMRD (based on Zimmerman & Schunk, 1989).....	13
2. Theoretical framework for the present study based on SCT .....	26
3. NSCC model for SC with domains and subdomains .....	34
4. Histograms for mean INE and mean ESE .....	81
5. Normal-QQ plots for SC domains of TAL and INT .....	82
6. Scatter plots of means of SE domains vs. SC domains .....	83
7. Survey scale for INT domain of SC .....	92
8. Survey scale for TAL domain of SC .....	95

## **ABSTRACT**

Elementary and middle school students' sense of self-efficacy—their belief in their abilities to achieve at desirable levels on school-related tasks—has been empirically found to be significantly related to the school climate in which it is nurtured. A paucity of research exists about the relationship between self-efficacy and school climate among high school students, however. This gap in the research is problematic as self-efficacy and school climate are important correlates of student achievement and both begin to decline as students move through middle school and into high school. This study examines the association between high school students' perceptions of a triad of widely adopted domains of school climate—teaching and learning, interpersonal relationships, and the institutional environment of the school—and their beliefs in three complementary domains of self-efficacy—academic, emotional, and social self-efficacy.

This cross-sectional correlational study used survey research to capture data on perceptions of school climate and self-efficacy beliefs from 10th- and 11th-graders ( $N = 60$ ) at an urban high school in Texas. A Spearman's rho correlational analysis revealed a single significant positive correlation with a medium effect size between students' perceptions of the institutional environment domain of school climate and their beliefs in their emotional self-efficacy. The study's findings suggest that other factors may mediate/moderate the relationship between the domains of school climate and self-efficacy under study, although the robustness of these conclusions must be qualified due to sampling issues that arose during the data capture.

## I. INTRODUCTION

Current reports from both the National Assessment of Educational Progress on U.S. high school students' math and reading scores, and the Programme for International Student Assessment in math, science, and reading, reveal plateauing trends, increasingly smaller incremental improvements, or outright declines in academic achievement (Brown, 2015; National Center for Education Statistics, 2018; Strauss, 2015; The Nation's Report Card, 2018). ACT and SAT scores display similar patterns (Anderson, 2015; College Board, 2016), although these tests are difficult to compare because of multiple exam revisions. Collectively, educational attainment or student achievement as measured by standardized test scores currently shows little progress.

The persistence of dire trends such as these cannot be ignored. Further, bipartisan support for educational reforms like the Every Student Succeeds Act (2015) suggests an inflection point in how educational policymakers conceptualize the school improvement process. After decades of intense focus on direct measures of academic performance, policymakers are becoming more amenable to examining indirect pathways to achieve desirable student outcomes (West, 2016). Public policy in education has also shifted towards students' social and emotional development due to heightened concerns about school shootings and cyberbullying (Federal Commission on School Safety, 2018; Whitehurst, 2016).

In his book *Visible Learning*, Hattie (2008) summarized the findings of 1,400 meta-analyses that encompassed tens of thousands of studies and tens of millions of students to identify factors that exert the highest effect size on student achievement. After sampling and comparing the average achievement of students who received an

intervention to others who did not receive interventions, Hattie found that student self-efficacy (SE) ranked 11th out of more than 250 factors impacting student achievement (Corwin Visible Learning Plus, 2018). Bandura (1986), one of the foremost pioneers of SE research, defined SE as “people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (p. 391). When Hattie’s list of 250 factors was sorted by student-centered influences (e.g., students’ own estimation of their grades, memory ability, learning programs calibrated to students’ developmental levels, prior academic ability, and birth weight), SE rose to become the fourth highest influence on student achievement (Killian, 2017). According to Hattie’s study, when it came to influencing student achievement, students’ beliefs about their SE were almost as important as their record of actual past performance.

SE also figured prominently in a comprehensive scan of 136 social and emotional conceptual frameworks, the largest such analysis to date, conducted by Berg, Osher, Same et al. (2017). The frameworks were sampled from 14 fields of study including school-based competency development, psychology, positive youth development, mental and public health, juvenile justice and violence prevention, and workforce. SE was identified as the most frequently cited competency within the identify/self-image domain, appearing in over 70 of the conceptual frameworks. Also, SE was cited as a desirable social and emotional competency in all 14 areas of study. The study’s findings suggest that SE acts as a linchpin for effective action in both the academic and nonacademic domains.

In his social cognitive theory of human behavior, Bandura (1986) not only posited the central role SE beliefs play in initiating, sustaining, and completing tasks, he argued

that SE beliefs, when affirmed, unlock human agency. When people believe they can perform actions that produce desired results, their conviction influences the choices they make, the goals they set, the effort they allocate, the perseverance they exert in the face of obstacles, and the emotional reactions they experience as they perform each of these steps. Caprara and Steca (2005) eloquently expressed the vital part SE plays in human agency: “Among cognitive structures that attest to the functioning of an integrated self-system capable of conferring unity, continuity, and directness to the actions of individuals, none is more pervasively influential than self-efficacy beliefs” (p. 195). In other words, unless individuals believe they can perform actions that produce desired results, they have little motivation to initiate actions, allocate mental resources to engage them, or persevere to the end when faced with adversity.

Because of the integral role SE plays in shaping human achievement, it has been extensively studied in relation to student performance at school. A female student intent on rectifying a low average grade at school serves as an example. A student with high social SE, having a strong belief in her effectiveness in handling social relationships, would be more confident in approaching her teacher to request remediation. Once the strategy for remediation is discussed and agreed to, the student’s academic SE—how effective she feels about accomplishing academic tasks—becomes ascendant, providing her confidence to confront the cognitive challenge. If the remediation does not achieve expected results the student may begin to feel anxious and agitated. Her emotional SE—how effective she feels at managing emotions—may help her to keep negative affect at bay until the cognitive challenge is conquered. While students may enlist other forms of SE for school-related performances, research reviewed in Chapter II suggests that a

balanced configuration of academic, emotional, and social SE is associated with higher performance at school.

Besides facilitating student performances at school, a highly developed sense of SE can influence how students select and mold social and physical environments. Bandura (1994) argued that from a very young age students with high SE assume an *agentic perspective* about their surroundings. Rather than passively acquiescing to external conditions, individuals with high SE act as their own agent by selecting and shaping their surrounding environment to match their perceived capacities. Within a school context, this social and physical environment is often referred to as school climate (SC). It entails the quality and character of school life, reflecting school norms, goals, values, interpersonal relationships, teaching, learning and leadership practices, and organizational structures that foster social, emotional, and physical safety and security among students (National School Climate Council, 2007).

This agentic perspective produces a reciprocal relationship between SE and SC in which high SE levels cause students to actively construct a positive SC, which in turn contributes to even higher levels of SE. Further, student SE can be intentionally developed, provided the SC presents enabling conditions. Such conditions include a space where students can build a portfolio of successful performance tasks, receive direction and encouragement from teachers and peers, witness their peers having success with similar performance tasks, and experience emotions of fulfillment and self-actualization about their successes (Schunk & Pajares, 2002; Usher & Pajares, 2008).

While the construct of SC has been divided into numerous domains in the literature, the four domains which are most widely cited include: safety, teaching and

learning, interpersonal relationships, and institutional environment (Cohen, McCabe, Michelli, & Pickeral, 2009; National School Climate Center [NSCC], 2018a; O'Brennan, Bradshaw, & John Hopkins Center for the Prevention of Youth Violence, 2013; Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). First, the safety domain encompasses students' physical and emotional security and the rules and norms which keep students safe. Second, the teaching and learning domain includes support for students' academic, social, and emotional learning. Third, the interpersonal relationships domain entails the social support structure of school staff and peers. And finally, the institutional environment domain consists of students' connectedness, sense of belonging, and engagement with school (NSCC, 2018a). For reasons explained in the Delimitations section of the present chapter, only the domains of teaching and learning, interpersonal relationships, and institutional environment were investigated in the present study.

While connections have been extensively demonstrated in the literature between SC and students' social and emotional development (Berg, Osher, Moroney, & Yoder, 2017; Cohen et al., 2009; NSCC, 2018b; O'Brennan et al., 2013; Thapa et al., 2013), research specifically linking SC to SE is still developing. Empirical studies have generally focused on SC and teacher SE (Aldridge & Fraser, 2016; Collie, Shapka, & Perry, 2012; Hosford & O'Sullivan, 2016; Lacks, 2016; Malinen & Savolainen, 2016; McIver, 2014; Meristo & Eisenschmidt, 2014; Organization for Economic Cooperation and Development [OECD], 2009) and to a lesser degree on counselor SE (Harona, Wan Jaafar, & Baba, 2010; Sutton Jr. & Fall, 1995), and administrative/principal SE (Dahlkamp, Peters, & Schumaker, 2018; Davis, 2013). Studies linking SC and student SE have examined elementary school, middle school, and university student samples

primarily. Most of these studies have investigated the association between a few domains of SC and discipline-specific (or subject-specific) SE (Battistich, Solomon, Kim, Watson, & Schaps, 1995; Brand, Felner, Shim, Seitsinger, & Dumas, 2003; Jöet, Usher, & Bressoux, 2011; McMahon, Wernsman, & Rose, 2009; Roeser, Midgley, & Urdan, 1996; Vieno, Santinello, Pastore, & Perkins, 2007). The findings of such studies are more pertinent to classroom-level, group-level, or subject-specific interventions than to serving as a guide for schoolwide improvement. Only a handful of high school level studies linking SC with student SE could be found (e.g., Carr, 2014; Cheung & Lai, 2013; Gafoor & Ashraf, 2012; Pedditzi, 2014). Studies of how high school students' perceptions of SC at the campus level are associated with their academic, emotional, and social SE beliefs could not be found in the literature, hence the need for the present study.

### **Statement of the Problem**

In their recommendations for future research, authors of several recent large-scale studies of social and emotional competencies called for further inquiries into how those competencies relate to the environments in which they are nurtured. Berg, Osher, Same et al. (2017) recommended further research “focus[ed] on domains that lie at the intersection of school climate and social and emotional competency development” (p. 78). This recommendation is consistent with their assertion that “young people’s development of social and emotional competencies occurs in interaction with their contexts” (p. 78). Tsang, Hui, and Law (2012) reached a similar conclusion after conducting their own extensive conceptual review of literature on SE as a positive youth development construct. After examining more than 200 articles in 65 journals, the researchers recommended that future SE research for adolescent development focus on



clearly discerning the role of the school regarding SE to “sharpen the effectiveness of interventions” (p. 7).

As research pointing to indirect paths to improved student achievement continues to build, educational policymakers are increasingly amenable to supporting and funding such cross-over studies between SC and SE. Nonacademic measures of students’ progress and social and emotional competencies have gained such legitimacy, in fact, that they have started to become adopted as metrics for school improvement and accountability. Most of the states that applied for Elementary and Secondary Education Act waivers to opt out of the No Child Left Behind accountability system proposed SC and/or social and emotional education as part of their alternative accountability protocol (Cohen, 2014). Now under the educational implementation resources provided with the Every Student Succeeds Act, SC is one of only a few examples offered to states as possible nonacademic accountability measures (Association for Supervision and Curriculum Development, 2016). As alternative nonacademic accountability measures continue to evolve, ongoing empirical research studies will be needed to ensure these measures satisfy the legal directive to “develop, implement, and evaluate comprehensive programs and activities that...foster safe, healthy, supportive, and drug-free environments that support student academic achievement” (Every Student Succeeds Act [ESSA], 2015, p. 177).

### **Purpose of the Study**

The connection between high school student SE and the SC domains in which SE is nurtured represents a potential pathway toward the goal of improved high school student achievement and is gaining support from educational researchers and regulators.

The present study represents an initial inroad into the pathway showing the associations, if any, between three SC domains—teaching and learning, interpersonal relationships, and institutional environment—and high school students' academic, emotional, and social SE.

The following research questions relating SC and SE and accompanying hypotheses guided this study:

RQ1: To what extent are high school students' perceptions of the teaching and learning domain of SC related to their perceptions of academic SE?

H<sub>1</sub>: There is a significant positive relationship between students' perceptions of the teaching and learning domain of SC and their perceptions of academic SE.

RQ2: To what extent are high school students' perceptions of the teaching and learning domain of SC related to their perceptions of emotional SE?

RQ3: To what extent are high school students' perceptions of the teaching and learning domain of SC related to their perceptions of social SE?

RQ4: To what extent are high school students' perceptions of the interpersonal relationships domain of SC related to their perceptions of academic SE?

RQ5: To what extent are high school students' perceptions of the interpersonal relationships domain of SC related to their perceptions of emotional SE?

RQ6: To what extent are high school students' perceptions of the interpersonal relationships domain of SC related to their perceptions of social SE?

H<sub>6</sub>: There is a significant positive relationship between students' perceptions of the interpersonal relationships domain of SC and their perceptions of social SE.

RQ7: To what extent are high school students' perceptions of the institutional environment domain of SC related to their perceptions of academic SE?

RQ8: To what extent are high school students' perceptions of the institutional environment domain of SC related to their perceptions of emotional SE?

H<sub>8</sub>: There is a significant positive relationship between students' perceptions of the institutional environment domain of SC and their perceptions of emotional SE.

RQ9: To what extent are high school students' perceptions of the institutional environment domain of SC related to their perceptions of social SE?

H<sub>0</sub>: Variables representing the teaching and learning, interpersonal relationships, and institutional environment domains of SC are not related to academic SE, emotional SE, and social SE.

### **Significance of the Study**

High school-age students represent an understudied yet critical population in the study of the relationship between SC and SE. Studies in the United States and abroad, both cross-sectional and longitudinal, show that students' sense of SE generally decreases beginning in the middle school years and extending into high school (Eccles, Midgley, & Adler, 1984; Harter, 1992; Martin, 2009; Ryan & Deci, 2000; Wigfield & Eccles, 2000). Further, research on national, state, and local samples demonstrates that important factors of SC such as students' enthusiasm for school, connectedness, and engagement generally wane during the same period (Bear et al., 2016; Gallup, 2015; Hascher & Hagenauer, 2010; Klem & Connell, 2004; Lessne, Yanez, & Sinclair, 2018). Studying the association between student perceptions of SC and their SE beliefs may provide school

practitioners with clues to explain the declines. The results could also guide school practitioners as to whether they should invest in SC to develop student SE or investigate other pathways to develop this important correlate of student achievement.

### **Research Design Perspective**

In his celebrated book on the foundations of social science research, Crotty (2003) strongly recommended researchers consider their epistemology and theoretical perspective about knowledge and meaning making before elaborating their research designs. In order to determine their research goals, researchers should define knowledge and how it is attained (i.e., their epistemology). Additionally, researchers should identify key assumptions about how people make meaning of knowledge in the world and with their social environment (i.e., their theoretical perspective). Once research goals are finalized, concerns about epistemology and theoretical perspectives inform decisions about the research methodology to choose to fulfill those goals. The next section provides detailed insights into the epistemological and theoretical perspectives that guided and informed the present study.

### **Epistemology and Theoretical Perspective**

The epistemological frame for the present study is critical realism, which navigates a space between the contingent internalized interpretation of reality advanced by a constructionist epistemology and the external scientifically objective and absolute reality portrayed by an objectivist one (Owens, 2011). Bhaskar (2008), one of the pioneers of critical realism, explained that phenomena exist, are naturally ordered and arranged, and have properties and functions outside human cognition of them. These qualities are transcendental, undiscoverable, and thus beyond the ken of empirical science

(positivism) and human interpretation of them (constructionism). Nonetheless, humans can construct approximate models of phenomena like SE and SC. Comprehension of phenomenal constructs is emergent and occurs at different levels—termed *strata* or *emergent layers*—including cognitive, emotional, social, and cultural levels, for example.

In the case of the present study, two critical questions from the critical realism perspective affect the research design. First, the educational establishment is very invested in student products and performances or physical manifestations of underlying processes at work, ostensibly the lowest strata; should greater attention be paid to more sophisticated social and emotional strata such as SE beliefs and the SC factors that influence them? Second, Bhaskar (2008) urged critical realists to seek out causal relationships in order to recommend changes and transform the social world through practical action; how can critical realist researchers uncover the causal mechanisms underlying social phenomena such as SE and SC?

Research suggests that SE plays a pivotal role in causal attributions (the object to which we attribute the causes of actions or results), agent causality (the idea that people with agency can start new causal chains not predetermined by prior events), and may even have a causal link to student achievement (Bandura, 1986, 1992; Pajares & Schunk, 2001; Stajkovic & Sommer, 2000). The present study represents an early-stage stratum in our understanding of SC and its associations with SE, a possible causal chain for further research into student agency and achievement.

### **Methodology**

This cross-sectional correlational study used survey research methodology to determine whether associations exist between high school students' perceptions of SC

and their SE beliefs. The two survey instruments used in data collection from which relevant items were extracted were the ED School Climate Student Survey developed by the U.S. Department of Education's National Center for Education Statistics and the Self-Efficacy Questionnaire for Children developed by Muris (2001). The constructs of interest that comprise SC included teaching and learning (TAL), interpersonal relationships (INT), and institutional environment (INE). For SE the variables were academic SE (ASE), emotional SE (ESE), and social SE (SSE). These constructs coincide with widely adopted domains of SC and SE discussed earlier and are operationally defined in the Definition of Key Terms section of the present chapter. Demographic variables of age, sex, race/ethnicity, and grade level were captured to develop an accurate profile of the sample. The sample included a stratified convenience sample of high school students from a small urban high school.

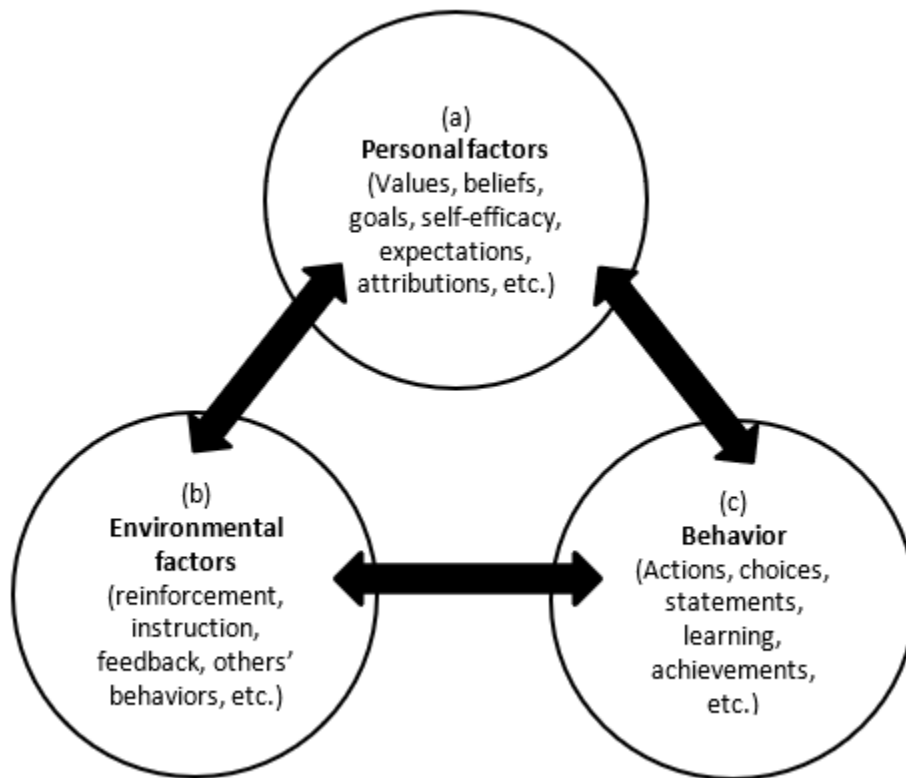
The Spearman's rho correlation coefficient was the statistic used to test for statistical and practical significance between the SC and SE variables. The magnitude of the coefficients (between 0 and 1) and their direction (positive or negative) determined to what extent students' perceptions of SC correlated with their SE beliefs.

### **Theoretical Framework**

Bandura's (1986) social cognitive theory (SCT) provides the theoretical framework for presuming a relationship exists between an environmental factor (SC) and a personal factor (SE). Dissatisfied with behaviorist portrayals of humans as simply conditioned beings reacting to external stimuli or internal drives with little agency in shaping their behaviors, Bandura envisioned them as proactive, self-organizing, and self-

reflecting beings, whose thoughts and actions arise from a dynamic interplay of personal, behavioral, and environmental influences.

Bandura posited an interactionist relationship (see Figure 1) between (a) personal factors such as values, beliefs, goals, SE, expectations, and attributes; (b) the social and physical environment in which reinforcement, instruction, feedback, and vicarious experiences occur; and (c) human behavior and the actions, choices, and statements people make, which he called the triadic model of reciprocal determinism (TMRD).



*Figure 1.* Representation of the TMRD (based on Zimmerman & Schunk, 1989).

According to McGiboney (2016) in his book *The Psychology of School Climate*, SC studies arose in response to empirical findings that the effects of personal characteristics of the student body (e.g., SES, sex, race, and family background) could not wholly explain student achievement or the likelihood of college attendance. This

realization is consistent with the TMRD, which posits that environmental factors along with personal ones ultimately shape human behavior. As the present study focused on the relationship between SC and SE, only the pathway from environmental factors to personal factors illustrated in Figure 1 was explored.

### **Assumptions**

Several assumptions about the quality of data obtained through self-report deserve mention. One assumption is that high school student participants have the developmental maturity to assess the SC of their schools and their own SE and that, given the proper incentives, they will answer questions honestly and as objectively as possible. A second assumption is that well-chosen instruments calibrated to the student sample selected can mitigate the effect of subjective response bias (Grimm, 2010; Isaac & Michael, 1995; Podsakoff, MacKenzie, & Podsakoff, 2012). Other assumptions about the quality of self-report data that are important include the validity and reliability of student self-reports for SC (Mitchell, Bradshaw, & Leaf, 2010) and social and emotional competencies such as SE (Bandura, 2006; Duckworth & Yeager, 2015).

### **Limitations**

Three important limitations are noteworthy in the present study. First, bivariate correlation analysis did not allow predictions to be made about the level of SE based on the level of SC. Predictive ability requires assigning independent and dependent variables to the SC and SE factors and conducting a regression analysis. Further, the present analysis did not address confounding variables or shared variance that might exist between the domains of SC and SE which could reveal more nuanced information about the variable relationships. Although demographic data was captured in the survey



process, personal factors such as race, gender, and GPA were not statistically controlled, and any mediating effects these factors might have on the relationship between SC and SE were not accounted for.

Second, resources for triangulating the research findings were not available. Research triangulation could take the form of using other student samples, both student and teacher samples, or other data collection methods such as observation, interviews, or focus groups. According to Archer, Sharp, Stones, and Woodiwiss (2015) in an article on methodologies that are consistent with critical realism, such triangulation of methods could better “tease out the different levels of analysis and the real, deep causal processes at work” (p. 12).

Third, the use of a cross-sectional design and the lack of replication by way of an independent analysis were important limitations. Replicating the study in a pretest-posttest format would have provided an assessment of stability of the examined relationships by establishing baseline levels of SE and SC before drawing conclusions about their effects on each other. Conducting the study in a larger sample that included other schools could have increased the degree of external validity and reliability of the study’s results, but resources were not available to do so.

### **Delimitations**

To narrow the scope of the present study two delimitations were instituted. First, important dimensions of SE for high school age students such as physical SE, spiritual SE, and self-regulatory SE were omitted. The present study focused on student ASE, ESE, and SSE, a configuration of three complementary domains shown in Chapter II to be significantly associated with desirable student outcomes.

Second, the important SC domain of safety was omitted from the present study. To help prevent the isolation, detachment, and depression associated with individuals who have committed school shootings or engaged in cyberbullying, policymakers are promoting programs to keep students connected and engaged, teach them social and emotional competencies, and foster caring relationships (Federal Commission on School Safety, 2018; National Center on Safe and Supportive Learning Environments, 2019). As such, discussions about school safety have increasingly merged with topics attributed to the other SC domains under study.

### **Definitions of Key Terms**

Certain terms of central importance to the present study are defined below. Abbreviations are provided for terms that appear frequently, and/or are lengthier. The abbreviations are used from this point forward to increase readability.

*Academic SE (ASE):* The domain/variable of SE defined as students' beliefs that they can successfully achieve at a designated level on an academic task or attain a specific academic goal (Bandura, 1997).

*Emotional SE (ESE):* The domain/variable of SE defined as students' "beliefs about whether they think they can successfully perceive, use, understand, and manage emotional information" (Qualter et al., 2015, p. 33).

*Institutional Environment (INE):* The domain/variable of SC that represents students' perceptions of school connectedness, sense of belonging, and student engagement (NSCC, 2018a).

*Interpersonal Relationships (INT)*: The domain/variable of SC that represents students' perceptions of the respect for diversity and individual differences, and the social support from adults and peers (NSCC, 2018a).

*School climate (SC)*: The construct defined as “the quality and character of school life...based on patterns of school life experiences and reflects norms, goals, values, interpersonal relationships, teaching, learning and leadership practices, and organizational structures...that support people feeling socially, emotionally and physically safe” (National School Climate Council, 2007, p. 5).

*Social SE (SSE)*: The domain/variable of SE defined as students' “self-expectations for personal skill in performing the specific behaviours that underlie personal relationships” (Connolly, 1989, p. 259).

*Teaching and Learning (TAL)*: The domain/variable of SC that represents students' perceptions of the support for academic, social, emotional, ethical, civic, and service learning (NSCC, 2018a).

### **Organization of the Remainder of the Study**

Chapter II reviews the literature pertinent to SC and SE, especially as it relates to high school students. A theoretical framework connecting the constructs of SC and SE is developed along with conceptual models for dividing SC and SE into meaningful domains. Empirical evidence relating the two constructs is also summarized. Chapter III explains the methodology for testing the association between SC and SE. Chapter IV provides an analysis of the results and findings and answers to the research questions and hypotheses. Chapter V presents a discussion of the findings, conclusions, implications of

the findings for theory and practice, limitations of the study, and recommendations for future research.

## **II. LITERATURE REVIEW**

The present study explored the relationship between high school students' perceptions of SC and their sense of SE. Specifically, the research revealed whether their perceptions of three domains of SC—TAL, INT, and INE—related to their beliefs about their ASE, ESE, and SSE and, if so, to what degree. The literature on the constructs of SC and SE is reviewed in this chapter, which consists of five sections: (a) defining and differentiating SC and SE, (b) developing a theoretical framework relating SC to SE, (c) dimensionalizing SC and SE, (d) reviewing empirical research relating SC to SE, and (e) summarizing the literature and justifying the need for the present study.

### **Defining and Differentiating SC and SE**

In this section SC and SE are defined and differentiated from other related concepts. Conceptual clarity is critical in academic discourse; when researchers use a common lexicon both theory and practice advance more efficiently in the collective and inefficiencies, such as redundant studies, are avoided (Michelman, 2015; National Research Council, 2012). In a study that is near the beginning of a research pathway like the present one, conceptual clarity makes it easier for future researchers to link the evidence for change with strategies for change, and with the evaluation tools to see if the changes are effective (Jones, Bailey, Brush, Nelson, & Barnes, 2016).

### **Defining SC**

SC suffers from an identity crisis in the academic literature. Attempting to provide a unifying conceptual framework for SC, Rudasill et al. (2017) reviewed the literature finding a “definitional confusion (that) prevents coherent understanding of school climate, with shifting boundaries of what comprises this construct” (p. 36). Other

researchers who have surveyed the discipline have come to similar conclusions (Cohen et al., 2009; Johnson, 2009; O'Brennan et al., 2013; Ramelow, Currie, & Felder-Puig, 2015; Zullig, Koopman, Patton, & Ubbes, 2010). In a review of SC literature, Wang and Degol (2015) identified one point of agreement among researchers: SC is a multidimensional construct.

In their pioneering work on the organizational climate of schools, Halpin and Croft (1963) analogously compared the SC of a school to the personality of an individual. In a more recent historical analysis and review of SC literature, Cohen et al. (2009) explained that SC is often described as the atmosphere, feeling, tone, setting, or milieu of the school. Echoing Halpin and Croft's definition, Cohen et al. referred to SC as a school's *character* and the quality of life within a school that includes the physical and socio-emotional environment (e.g., safety, sense of belonging, social relationships, and academic support).

In much the same vein, the National School Climate Council (2007) defined SC as the "quality and character of school life...based on patterns of school life experiences and [reflecting] norms, goals, values, interpersonal relationships, teaching, learning and leadership practices, and organizational structures...that support people feeling socially, emotionally and physically safe" (p. 5). After conducting a historical review of the SC construct, Zullig et al. (2010) cited the National School Climate Council's definition of SC as the most synthetic. The same definition was offered by O'Brennan et al. (2013) in their SC research brief for the National Education Association, and by Cohen et al. (2009) cited earlier. Because the National School Climate Council definition is

comprehensive, alludes to measurable and malleable dimensions of SC, and is widely used, it was chosen as the operational definition of the SC construct for the present study.

### **Differentiating SC from Similar Constructs**

Since the 1960s, when educational researchers first turned their systematic attention to the study of SC (Thapa et al., 2013), the definition of the construct has been alternately broadened and narrowed. In a meta-analysis of thirty years of early SC research, Anderson (1982) explained that the construct was envisioned as a complex composite of four dimensions including *ecology* (the physical and material conditions of school), *milieu* (the social characteristics of individual school members and groups); *social system* (larger patterns or norms of social relationships at school), and *culture* (the school's belief systems, norms, and values).

Recently a more discriminating understanding of the SC construct has emerged. Researchers differentiate SC from other constructs (Cornell et al., 2016; MacNeil, Prater, & Busch, 2009), especially school culture which is envisioned as the norms, values or beliefs of the school shared by school stakeholders over time (Drago-Severson, 2012; Gruenert, 2008; Kane et al., 2016). The National School Climate Council (2007) definition cited earlier describes SC as a *reflection* of those shared school norms, goals, and values. Gruenert (2008) described SC as the leverage for school culture, meaning that it is a primary tool for accessing and shaping the culture of the school.

Rudasill et al. (2017) also argued for a leaner definition of SC in their proposal of a systems view of SC. They lamented that SC is often conflated with constructs largely beyond the control of school practitioners. These constructs include *school structures* that describe the relatively fixed structural components of a school (e.g., enrollment,

whether the school is public or private, urbanicity, curriculum, funding, physical layout/class size), *school context* that comprises the aggregate characteristics of the student body (e.g., racial/ethnic composition, boy/girl ratio, socioeconomic status, and attendance), and *school processes* which include the formal procedures for different school functions (e.g., leadership and decision making, the school's behavior management system). According to Rudasill and colleagues, the integration of such constructs in prior SC models and frameworks "decreases their utility, notably through reduced construct validity in measurement and empirical research" (p. 12). As the leaner understanding of SC makes the construct more malleable and practical for site-based school practitioners, SC is differentiated from school culture, structures, context, and processes for the present study.

### **Defining SE**

As defined earlier by Bandura (1986), SE refers to people's assessments of their ability to perform designated tasks or behaviors. Bandura emphasized that SE is a belief about one's capacity that does not necessarily match one's actual capacity. He asserted that people who tend to judge their SE slightly higher than their actual capacities can better navigate difficult challenges than those who realistically assess or undervalue their SE; the modest over-calculation of SE increases effort and persistence enough to reach task completion. Bandura's assertion illustrates how SE differs from actual efficacy, which is akin to competence—the power to produce an effect. SE refers to one's confidence (accurate or not) in one's efficacy; how competent one feels at performing a determined task or range of tasks.



In a guide for developing SE scales, Bandura (2006) argued that measuring SE at an *omnibus* (global or general) level would have little explanatory power and limited predictive value, because it is not realistic to expect a person to feel efficacious in everything they do and because different tasks require different competencies. Although Scholz, Doña, Sud, and Schwarzer (2002) and others (Schwarzer & Born, 1997) found substantial empirical evidence that scales of general SE were reliable, homogeneous, and unidimensional across samples in dozens of nations, they agreed with Bandura that SE is a construct, not an observable, directly measurable factor.

### **Differentiating SE from Similar Constructs**

SE is sometimes confused in the academic literature with a whole panoply of related constructs such as self-concept, self-esteem, self-image, self-confidence (Morin, 2017), self-concept of ability, expectancies, expectancy beliefs, expectancy for success, performance expectancies, perceptions of competences, perceptions of task difficulty, self-perceptions of ability, ability perceptions, perceived ability, self-appraisals of ability, perceived control, and subjective competence (Pajares, 1996). An exhaustive analysis of the difference between all the self-view terms was beyond the scope of the present study (see Morin's [2017] glossary of self-related terms for an elegant framework). Only a few distinctions are highlighted here for the purposes of depicting SE in higher resolution.

SE is associated with the *doing* self while many of the other self-view concepts represent a more holistic impression of the *being* self (Maddux & Volkmann, 2010). Morin (2017) and many other authors argue that SE can only be properly understood as task-specific, unlike many other self-view concepts such as self-concept and self-esteem which can be understood globally or both globally and situationally (Bandura, 2006;

Bong & Clark, 1999; Gist, Schwoerer, & Rosen, 1989; Hardy, 2014; Huang, 2012; Pajares & Schunk, 2001). In being task specific, SE can be measured more micro-analytically and applied to a much more sensitive range of applications (e.g., efficacy for very specific academic problems such as factoring a trinomial by grouping or scanning an essay for the thesis statement; Bong & Clark, 1999; Pintrich & Schunk, 1996). Such tight parameterization makes the SE construct very dynamic, fluid, and flexible but also more sensitive to micro-variations, such as a student's preparation on any given day, physical condition, emotional mood, or external influences (such as task length or difficulty), and social factors (e.g., classroom social dynamics).

Several authors propose that SE is largely a *cool* cognitive judgment of one's abilities rather than an affective impression characteristic of other self-view concepts that involve a sense of approval/disapproval of identity or competence (Bong & Clark, 1999; Beck, 2008; Gist & Mitchell, 1992). Bong and Clark (1999) and Beck (2008) argued that SE is measured up to an absolute standard rather than a normative one, and Pajares and Schunk (2001) distinguished SE from self-views related to evaluations of one's self-worth, which are particularly dependent on how the attributes and abilities one has are valued in society; SE beliefs, they argued, are not as heavily influenced by societal standards. Gist and Mitchell (1992) also concurred that SE is not evaluative and that it is a sober determination of capability and competence that does not involve a sense of approval or disapproval of the degree of competence.

In summary, certain distinct albeit not unique characteristics of SE emerge from this comparative analysis; SE is a scalable and versatile construct that consists primarily of a composed cognitive self-perception of one's effectiveness at performing a task or

range of tasks up to a designated criterion-level of mastery rather than a normative one. Both SE and SC have been operational defined and differentiated from similar constructs. In the following section, a theoretical framework connecting the two constructs is explained.

### **Developing A Theoretical Framework Relating SC to SE**

In an article about understanding, selecting, and integrating a theoretical framework into dissertation research, Grant and Osanloo (2014) explained that a theoretical framework provides structure and limitations to the scope of research, and guides manifold decisions such as “the rationale for the study, the problem statement, the purpose, the significance, and the research questions” (p. 12). The framework also provides “a grounding base, or an anchor, for the literature review, and most importantly, the methods and analysis” (p. 12). The theoretical framework explained below adheres to Grant and Osanloo’s guidelines.

### **The Triadic Model of Reciprocal Determinism (TMRD)**

Bandura’s (1986) TMRD, a key element of his SCT of human behavior, is the theoretical model that relates SC and SE in the present study. The triangular model (see Figure 2) shows how student behavior (measured by student achievement), an environmental factor (SC), and a personal factor (SE) interact and complement each other giving form to students’ future choices and actions, surroundings, and attitudes and dispositions. The present study focused on only one path of the TMRD (illustrated by solid arrows in Figure 2) between the SC domains of TAL, INT, and INE and the SE domains of ASE, ESE, and SSE. The dotted lines show elements present in the model that are included to facilitate understanding but are not under study.

The path illustrated in Figure 2 shows how the domains of SC, representing the environmental influence in the TMRD, help shape students' sense of ASE, ESE, and SSE, the personal factor, by activating four *sources* (or antecedents) of SE.

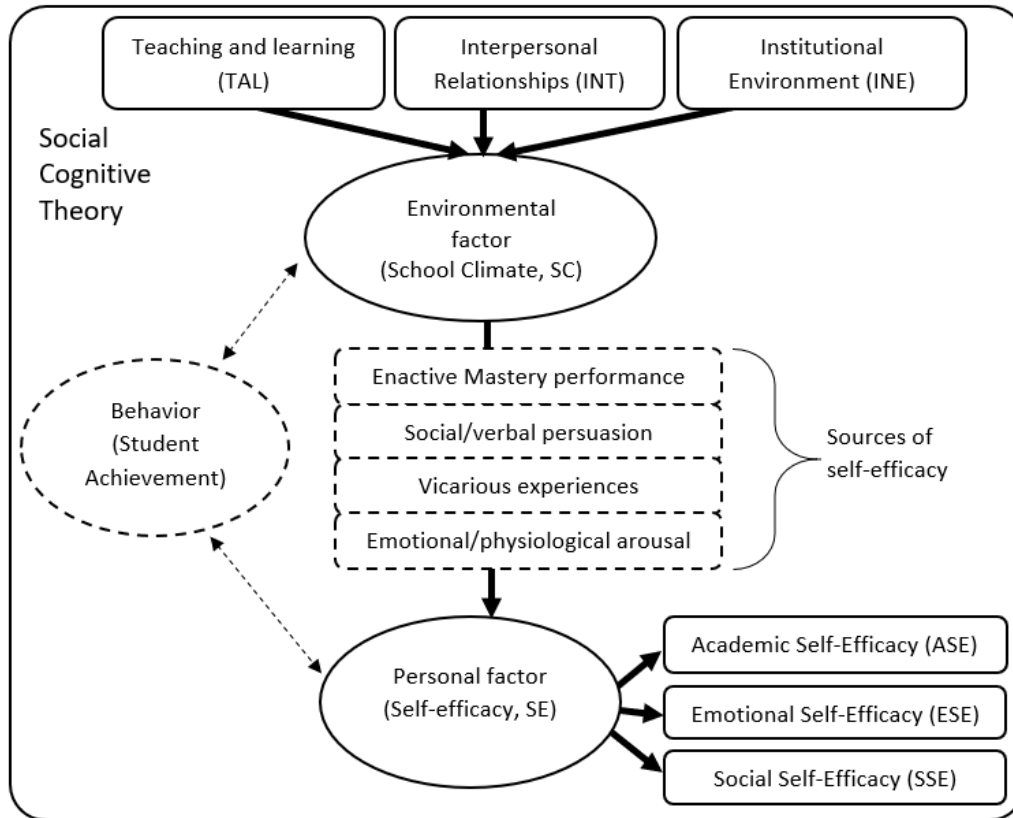


Figure 2. Theoretical Framework for the present study based on SCT.

Bandura (1986) identified these four sources as:

- *enactive mastery performances*—one's actual past record of experience with similar performances;
- *social/verbal persuasion*—the verbal encouragement, mentoring, and coaching one receives to perform the task;
- *vicarious experiences*—how respected others have done in performing the same/similar tasks; and

- *emotional/physiological arousal*—the emotional reaction one has had to performing similar tasks.

Bandura (1994) proposed that certain conditions at school can activate the four sources of SE among students. Student SE is nurtured in a space where students can test and evaluate their perceived knowledge and thinking skills as part of formal instruction but also through social comparison with their peers, by incentive structures and goal-setting promoted by teachers, and by feedback given by teachers as to students' performances. Students' SE develops if the SC is favorable for learning academic, emotional, and social skills in and out of the classroom; for forming supportive bonds with peers and adults; and for keeping students engaged and connected to their school.

Certain school practices and classroom structures “tend to convert instructional experiences into education in inefficacy” (Bandura, 1994, p. 75), especially among students who are insecure about their abilities to begin with. Examples of such practices include homogeneous ability groupings rather than mixed-level ones, lock-step instruction rather than individualized or differentiated instruction, and competitive approaches rather than cooperative ones.

The present study draws a straight path from SC domains to SE domains. While the conceptualization of SE sources helps the reader understand the possible mechanisms theoretically at work between SC and SE, they are not factored in or measured at this preliminary stage in the research. The case for SCT as a theory to explain how SC relates to SE is further made in the following section by briefly comparing it with other theories.

## **Critiques of SC Theory and Implications for the Present Study**

In their extensive review of 206 studies on SC research from 1970 to 2012, Thapa et al. (2013) explained that the discipline of SC research was in disarray. They pointed out that their predecessors—Anderson (1982) in his comprehensive review of SC literature, and Freiberg (1999) in his book collection of papers on SC topics—had also noted disorder and fragmentation in SC research in the preceding decades. Thapa and colleagues found the field plagued by a plethora of definitions and models, often not made explicit, that only addressed certain facets of the multidimensional construct. The lack of conceptual concordance, they claimed, had stymied “the advancement of school climate research so necessary to inform school improvement efforts” (p. 15).

In an extensive review of the construct of SC, its measurement, and impact on student outcomes, Wang and Degol (2015) attempted to provide some order to the field of SC research. They proposed that the selection of an SC theory depends on “the particular research questions of interest, the environmental contexts assessed, the outcomes of interest, and the sample under consideration” (p. 321). They identified and compared six prevalent theories of SC—SCT, attachment theory, social control theory, the bioecological theory, risk and resilience theory, and stage-environment fit theory—and found that all six theories emphasized the importance of teacher/student social bonds in establishing a favorable SC. The theories diverged, however, on what other domains of SC were most fundamental and at which developmental stage of childhood they were most applicable.

Both SCT and attachment theory posit that bonds of social attachment are paramount to a positive SC. Attachment theory singles out relationships as the key

ingredient for an effective SC, however, while SCT acknowledges that other factors such as instructional practices, student engagement with school activities, and an emotionally safe space for learning may also play an important role. Attachment theory has been applied more often to the early years of schooling when the formation of social bonds, especially between students and their teachers, are decisive. The present study focused on the high school student population, an age group attached to school for a multitude of reasons besides peer and teacher relationships such as cognitive engagement and access to technology (Geraci, Palmerini, Cirillo, & McDougald, 2017).

The social control and risk and resilience theories of SC focus on preventing or managing risky, delinquent, and/or transgressive behaviors. These theories are particularly suitable for SC studies of at-risk populations and the period of early adolescence when these behaviors typically begin to manifest. The present study targeted a sample of high school students from high, medium, and low risk populations.

SCT is compatible with the bioecological theory of SC, which covers the whole gamut of proximal and distal external influences on student behavior including friends, family, the school, society at large, and the cultural-historical context. The broad reach and multi-contextual scope of the theory—which encompasses both space and time—is compelling but has made the theory challenging to operationalize in measurement models (Ashiabi & O’Neal, 2015; Tudge, Mokrova, Hatfield, & Karnik, 2009). The present study only examined school-level SC factors within the immediate influence of school practitioners.

The stage-environment fit theory examines students’ psychological needs as a function of the developmental stage they are in, and how SC can best meet them. The

theory is particularly apt for tackling SC issues in the disruptive transition periods between elementary/middle school and middle school/high school when students typically experience a greater probability of becoming disconcerted about SC (Wang & Degol, 2015). For high school students who have already transitioned fully to high school, which describes the sample used for the present study, SCT represents an adequate theoretical perspective for SC.

Among the prevalent theories of SC compared above, SCT has been demonstrated to be suitable for the research questions being investigated, the environmental context, and the sample under consideration in the present study. In the following section, SCT is compared with competing theories about the drivers of human behavior to further support the choice of the framework for the present study.

### **Critiques of SE Theory and Implications for the Present Study**

Bandura's ideas about SE have had their critics. Deci and Ryan (1985), proponents of self-determination theory, have taken issue with the importance Bandura gives to SE as a driving force of human motivation. Self-determination theory posits the essential role of intrinsic motivation on human behavior without regard to external influences, and Bandura (1986) made the case that high SE is desired not because there are any intrinsic rewards associated with it but because it brings external reinforcements or rewards.

The fact that Bandura acknowledges the behaviorist notion of environmental reinforcement of behavior in SCT did not make him immune from criticism by proponents of behaviorism. In his argument for a behavioral-analytic position, Biglan (1987) argued that the underlying mechanism that ties predictions of future performance



to eventual performance is environmental reinforcement, not SE. Biglan did not deny the findings of empirical research about SE, but he argued that external environmental variables rather than cognitive ones such as SE may be more effectively and precisely manipulated to develop treatment procedures for some clinical conditions (e.g, phobias, smoking behavior). Hawkins (1992) made a similar argument, decrying Bandura's claim that SE is causally related to performance and arguing that SE is an *epiphenomenon* (a superficial effect or byproduct) of performance simply correlated to it. Hawkins proposed that conventional learning theory explanations of observed performance levels were able to satisfactorily explain behavior more parsimoniously than accounts relying on SE.

The present study is an incipient investigation of how SC—the factor representing the environmental vertex of Bandura's triadic model —is related to students' sense of SE, the factor representing the personal qualities vertex. The student achievement factor, representing the behavioral vertex of the TMRD, was not investigated. Issues as to the degree to which SE influences student achievement, whether the effect is direct or indirect, and what the underlying mechanisms are, remain peripheral to this study. Additionally, the study design did not address the issue of causality, so the ongoing debate described does not qualify this study's results.

In summary, Bandura's SCT adequately explains the relationship between the constructs of SC and SE for the purposes of the present correlational study. In the following section, the SC and SE constructs are divided into meaningful and measurable domains according to current practices in preparation for the data gathering stage of the research.

## **Dimensionalizing SC and SE**

Multidimensional social science constructs such as SC and SE are divided into domains through theoretical and empirical steps. In his textbook on social science research, its principles, methods, and practices, Bhattacharjee (2012) explained that researchers conceptualize multidimensional constructs as consisting of certain domains that accord with their theoretical frameworks. They also field test their domain typologies by designing scales and instruments to measure them, administering the instruments on test subjects, and then using the respondent data to subject the instruments to statistical analyses of construct or structural validity. The analyses reveal whether the constructs have been broken down into the right number of domains, and how distinct the domains are from each other.

While conceptual models should correspond with the theoretical propositions of the study and be validated through statistical tests such as factor analysis or principal component analysis, a third consideration of practical importance is that the models be adopted and diffused (Cornell et al., 2017; Rothman, 2004). Future studies carried out under the same conceptual umbrella add clarity, coherence, and continuity rather than confusion (Arnaudova, 2014) or what Berg et al. (2017) calls “intellectual fragmentation” to a line of research. More valid inferences can also be drawn in comparative research when relatively consistent conceptualizations are used by different scholars researching the same topic (Esser & Vliegenthart, 2017). Consistency in this regard is also key for conceptual replication studies intended to test existing theories in novel ways (Freese & Peterson, 2017). Following the cited guidance, the domains into which SC and SE are divided are thoroughly justified below.

## **Dividing SC into Meaningful Domains**

A plethora of conceptual models of SC has resulted in the construct being divided into as few as three domains (Loukas, 2007; Rudasill et al., 2017) and as many as 15 (Haynes, Emmons, & Ben-Avie, 1997) in the academic literature. This “virtual grab-bag of characteristics” (Rudasill et al., 2017, p. 41) illustrates the usefulness of having selection criteria for dimensionalizing the SC construct.

In an extensive review of the field of SC conceptual models, Berg, Osher, Maroney et al. (2017) identified eight such models that are “(1) wide-ranging in nature, (2) have a strong research base, and (3) are gaining traction in local and state initiatives to track and improve school climate” (p. 35). The models differed in their scope (based only on samples of students, or including educational staff, and/or parents), focus (student-centered vs. institution-centered), and domain typology (how the SC construct was broken down into domains). Despite the differences, Berg and colleagues (2017) found that all eight frameworks shared four student-centered SC components: a comfortable physical environment, emotional and physical safety, high academic expectations, and high student engagement.

As all the conceptual models feature some configuration of the domains of conceptual interest to the present study, have been empirically tested through one or more instruments, and are gaining widespread adoption; the selection of one model was not a condemnation of the others. The National School Climate Center (NSCC) model stood out in various large reviews of SC literature (see, for example, Cohen et al., 2009, O’Brennan et al., 2013, & Thapa et al., 2013) and is backed by one of the most extensive support platforms for schools, districts, and state departments of education. This support

includes research, training, instrumentation, policy advice, data analysis, and SC improvement planning and implementation resources (Faster & Lopez, 2013; NSCC, 2018b; Payne, 2018).

Illustrated in Figure 3, the NSCC model consists of a typology of four domains—safety, TAL, INT, and INE. The safety domain comprises the school rules and norms and the physical and social/emotional security the students feel. The TAL domain includes support for academic learning, as well as social, emotional, ethical, civic, and service learning. The INT domain encompasses respect for diversity and individual differences, and social support from adults and peers. Finally, the INE domain consists of school connectedness, student engagement, and the school surroundings including the physical plant, facilities, and resources (NSCC, 2018; Thapa et al., 2013).



*Figure 3.* NSCC model for SC with domains and subdomains. (Raphael, 2017)

The safety domain was omitted from the present study, as explained in Chapter I, as school practitioners have increasingly turned to strengthening the other domains of TAL, INT, and INE to prevent unsafe acts such as cyberbullying and school shootings. Finally, per the guidance of Rudasill et al. (2017) cited earlier, the physical surroundings subdomain of INE was omitted from the present study since it is a relatively fixed

structural element of the school environment out of the immediate control of school practitioners.

Consistent with SCT, a school that is high performing in all SC domains should support the four theorized sources of SE—mastery experiences, social/verbal persuasion, vicarious experiences, and emotional/physiological arousal—described earlier. High levels in the TAL domain should coincide with students developing a portfolio of successes with their enactive performances. A strong INT domain corresponds to students being more receptive to receiving coaching and verbal persuasion from their teachers and peers and being motivated to mastery by vicariously witnessing their respected others having successes with the same/similar tasks. A school with a welcoming, connecting, and engaging INE facilitates conditions in which students experience positive emotions while mastering their academic, emotional, and social challenges.

The case for the dimensionalization of SC into TAL, INT, and INE has been made in this section. In the following section, the construct of SE is divided into meaningful domains using similar criteria.

### **Dividing SE into Meaningful Domains**

Because of its versatility, scalability and influence on both academic and nonacademic outcomes, the SE construct has been studied in relation to a variety of domains of student life, including problem solving, enlisting social resources, self-regulated learning, meeting others' expectations, management of leisure time and extracurricular activities, and enlisting community and parental support (Bandura, 2006).

The selection of a representative set of SE domains that encapsulate the school-level experience of high school students is justified in the following discussion.

The appeal to consider a set or cluster of SE beliefs rather than a single one in isolation stems from research showing that SE is culturally relative (Farrington et al., 2012), has an effective range within which it is beneficial (Loftus, 2013; OECD, 2005), and can only be properly evaluated in relation to other social and emotional competencies or benchmarks (Lerner, Bornstein, & Smith, 2003; OECD, 2005). An example of how high SE in a single domain did not have beneficial results arose from an analysis of data collected from the 2003 Programme for International Student Assessment (PISA) exam. U.S. students ranked near the bottom (24th out of 29) among developed countries in mathematics although they ranked first or near first in their responses to such items as “in my mathematics class, I understand even the most difficult work,” “I learn mathematics quickly,” and “I have always believed that mathematics is one of my best subjects” (National Center for Education Statistics, 2010). Through analysis of PISA results, the OECD (2007) found the mathematical self-concept factor to be significantly negatively correlated with mathematics performance overall.

In a paper on flawed self-assessment and its implications for health, education, and the workplace, Dunning, Heath, and Suls (2004) argued that artificially raising students’ self-esteem or self-concept through social promotion or grade inflation without a concomitant increase in self-evaluation abilities can be prejudicial to student growth. Students who possess a cluster of competencies, operating in tandem like a system of checks and balances, are less likely to experience a harmful incongruence between their

perceptions of their competence and their actual competence (Lantieri & Zakrzewskil, 2015; Paciello, Ghezzi, Tramontano, Barbaranelli, & Fida, 2016).

While no definitive set of competencies has been agreed upon as being the most effective at achieving equilibrium, research suggests that it includes a configuration of cognitive, intrapersonal, and interpersonal competencies. In their comprehensive scan of 136 conceptual frameworks of social and emotional competencies cited earlier, Berg, Osher, Same et al. (2017) were able to classify into the three categories more than seven hundred competencies from 14 fields of study. The same categories also guide the extensive and oft-cited work and research in school improvement of highly regarded organizations such as the Collaborative for Academic, Social, and Emotional Learning and the National Commission on Social, Emotional, and Academic Development of the Aspen Institute. Although it has yet to be passed, the Academic, Social, and Emotional Learning Act featuring the same three categories has garnered bipartisan support since its introduction in 2009 (H.R. 4223), and reintroduction in 2011 (H.R. 2437), 2013 (H.R. 1875), and 2015 (H.R. 850).

Regarding SE specifically, several studies point to the value of a clustered or multi-domain approach. In a study of the impact of perceived ASE on interpersonal and emotional behavior, Caprara, Pastorelli, and Bandura (1992) used principal components analysis to uncover the main SE factors that could be distilled from a large batch of SE beliefs in different domains. The list included SE for self-regulated learning; for mastery of different school subjects; for forming and maintaining social relationships; to resist peer pressure to engage in high risk behavior such as alcohol, drugs, and unprotected sex; and to meet personal and social expectations. Three domains—ASE, self-regulatory SE,

and SSE—were found to best encapsulate all the others (the description of self-regulatory SE in the cited study overlapped significantly with that of ESE in the present study).

In a more recent study, Paciello et al. (2016) examined the connection between various configurations (or clusters) of SE beliefs in the cognitive, affective, and social domains and wellbeing factors such as life satisfaction and depression among a sample of college level freshmen students ( $N = 1,872$ ). They found that students with the highest/lowest scores in all three domains—ASE, ESE, and SSE—had the highest/lowest scores on the wellbeing factors, respectively. However, students having high scores in one domain but intermediate scores in the others still had high wellbeing scores. The researchers conjectured that students could “compensate for their perceived lack of competence in some domains with their perceived strengths in others” (p. 21).

Other studies back the division of SE into a triad of academic, emotional, and social domains (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999; Loeb, Stempel, & Isaksson, 2016; Muris, 2001). Consistent with the evidence shared, SE was divided into three domains—ASE, ESE, and SSE—in the present study. The domains are further defined and discussed in the following section. When available, studies focusing on high school students are referenced.

**Definition and discussion of ASE.** ASE, also referred to as SE in academic settings (Pajares, 1996), is defined as the belief that one can successfully achieve at a designated level on an academic task or attain a specific academic goal (Bandura, 1997). Bandura (1993) distinguished ASE from cognitive SE, which is the belief in one’s “intellectual and learning efficacy” (p. 135). Cognitive SE aligns more with Lachman, Baltes, Nesselroade, and Willis’s (1982) definition of intellectual SE, which is “perceived



intellectual competence and perceived control over one's intellectual functioning" (p. 485). Both terms are more general terms for mental processing than ASE.

Since the present study focused on students' beliefs about their academic abilities in a school setting, ASE was targeted rather than cognitive or intellectual SE. Empirical research citing ASE is also much more robust than that citing cognitive or intellectual SE (see, for example, Artino, 2012; Honicke & Broadbent, 2016; Neuville, Frenay, & Bourgeois, 2007; Zimmerman, Bandura, & Martinez-Pons, 1992; Zimmerman & Martinez-Pons, 1990).

Bandura et al. (1999) explained that ASE comprises "children's beliefs in their efficacy to manage their own learning activities; to master different academic subjects; and to fulfill personal, parental, and teachers' academic expectations" (p. 259). Students with high ASE believe in their ability to plan for a task, monitor their performance of it, competently execute the task without assigning blame to external sources if obstacles arise, persist in their efforts to take the task to completion, and constructively reflect on the outcome of their performance.

There is substantial empirical evidence that a heightened belief in ASE is associated with desirable student outcomes. In a painstaking meta-analysis of thirteen years of research and 241 data sets, Richardson, Abraham, and Bond (2012) found ASE to have a medium-sized correlation with GPA. The researchers conducted a sophisticated cross-domain multiple regression analysis using synthesized correlation matrices to understand the relative contribution of 42 *non-intellective* factors on GPA. They found that ASE and performance SE were two of the factors with the largest average weighted correlations with GPA. In a meta-analysis of 109 studies, Robbins et al. (2004) found

ASE to be the best predictor of GPA (with a moderate effect size) out of nine psychological and study skill factors. In a meta-analysis of four studies ( $N = 489$ ), Preiss, Gayle, and Allen (2006) discovered a medium level negative effect size between ASE and test anxiety, larger than the effect sizes of study habits, test-wiseness (i.e., savviness at navigating tests in general), and nonprocrastination.

Other empirical studies have found that secondary level students with high ASE are more motivated (Alivernini & Lucidi, 2011); tend to engage in more prosocial and constructive behaviors, less moral disengagement and fewer problem behaviors (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001); have lower involvement in transgressive behaviors, hostile rumination, and substance abuse (Bandura, Caprara, Barbaranelli, Pastorelli, & Regalia, 2001); and have more feelings of calmness/serenity when confronting difficult tasks (Downey, Eccles, & Chatman, 2005).

**Definition and discussion of ESE.** ESE has been variously called regulatory ESE (Caprara et al., 2008), affective self-regulatory SE (Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003), and SE for affect regulation (Lightsey Jr. et. al, 2013). Paciello et al. (2016) found that ESE has been studied more in the population at large, leaving its influence in the academic context largely unexplored.

In one study on the design and validation of a brief instrument to measure young adolescent ESE, Qualter et al. (2015) defined ESE as “people’s beliefs about whether they think they can successfully perceive, use, understand, and manage emotional information” (p. 33). In a study of trait emotional intelligence, Petrides, Sangareau, Furnham, and Frederickson (2008) explained that ESE is “a constellation of emotion-related self-perceived abilities and dispositions measured via self-report” (p. 537).

Bandura (2005) hypothesized that a resilient sense of ESE is instrumental in overruling “emotional and psychosocial subverters of self-regulative efforts” (p. 20). Those who do not have a high ESE in this regard find it difficult to apply “discriminative regulation of affect” (p. 19) and are more prone to succumb to anxiety and negative emotions and consequent reactionary risk behaviors. Saarni (1999) explained that a belief in one’s ESE results in one being able to effectively manage the intensity, frequency and duration of negative emotion. Bandura et al. (1999) expanded the understanding of ESE to include positive affect and the belief in one’s ability to like others, be affectionate towards them, and feel empathy and joy.

High ESE has been shown empirically to have manifold advantages. In a meta-analysis of 14 studies ( $N = 5,315$ ), Mathews, Koehn, Abtahi, and Kerns (2016) found ESE to be significantly negatively correlated with anxiety among youth with no significant moderators. The researchers used the trim-and-fill approach, a data augmentation technique often used in meta-analyses to correct for missing studies and found that publication bias was unlikely even when using only 14 studies.

In a longitudinal study ( $N = 2,858$ ), Maciejewski, Prigerson, and Mazur (2000) used path analysis to find direct and indirect effects of ESE on depressive symptoms of adults over age 25. The researchers controlled for factors such as a history of prior depression, stressful life events, age, gender, race, socioeconomic status, chronic financial stress, functional health status, and number of chronic health conditions. Maciejewski and colleagues found that respondents’ ESE at the baseline year had a significant indirect negative effect on symptoms of depression at the follow-up data capture for both the group without prior depression and the group with prior depression.

In addition, for those with prior depression, ESE mediated almost half of the effect of dependent stressful life events on symptoms of depression.

In a prospective study over a two-year period ( $N = 464$ ), Bandura et al. (2003) used structural path analysis to verify the effect of adolescents' ESE on factors related to depression, delinquency, and prosocial behavior. Bandura and colleagues showed that adolescents' ESE for handling both positive and negative effect had significant direct and indirect positive repercussions on their social relationships, helped them ward off peer pressures for transgressive behaviors, and assisted them in coping with the stress of academic life.

Other empirical studies of adolescent ESE have found it to be significantly positively correlated with good overall mental health (Muris, 2002), and negatively related with risky sexual behavior (Valois, Zullig, & Kammermann, 2013), suicide ideation (Valois, Zullig, & Hunter, 2015), and substance use (Zullig, Teoli, & Valois, 2014). ESE was also found to be a significant predictor of the likelihood of high school students to engage in healthy behaviors such as moderate and vigorous physical activity, exercising, and playing sports (Valois, Umstattd, Zullig, & Paxton, 2008).

**Definition and discussion of SSE.** SSE has been referred to as interpersonal SE (García-Ros, Fuentes, & Fernández, 2015), perceived social competence, and SE for social interaction with peers (Stewart, 2014). According to Hermann (2005), SSE became a domain of SE as a result of a factor analysis conducted by Sherer et al. (1982) to validate a scale to measure general SE. Six of the scale items more adequately fit a subscale of items specifically related to social interactions; consequently, the subscale was named SSE (Hermann, 2005). In another study to develop and validate an SSE scale

for adolescents, Connolly (1989) defined SSE as “self-expectations for personal skill in performing the specific behaviours that underlie personal relationships” (p. 259). She described characteristics of SSE associated with adolescence including “social assertiveness, making friends and establishing interpersonal intimacy, seeking and offering help, performing in formal public contexts, and participating in social groups” (p. 259). While developing yet another instrument to measure SSE, Smith and Betz (2000) added that SSE has to do with one’s confidence in one’s ability to engage in social interactional tasks to form interpersonal relationships.

High SSE has been demonstrated empirically to have many benefits. In a correlational study to examine the relationship between SSE and interpersonal stress in adolescence ( $N = 180$ ), Matsushima and Shiomi (2003) compared students’ belief in their social skills with their stress levels and stress coping behaviors. They found SSE to be significantly negatively correlated with interpersonal stress and significantly positively correlated with interpersonal stress coping. The researchers also investigated stress levels and interpersonal inferiority when SSE was paired with interpersonal stress coping ability. Through a two-factor analysis of variance they found that without high SSE, adolescents experienced high stress levels and high interpersonal inferiority even if they possessed stress coping skills.

In a correlational study to investigate pathways between SSE, self-esteem, career path and depression in young adults in college ( $N = 405$ ; mean age, 18.8 years), Smith and Betz (2002) found that SSE was significantly positively related to career decision SE and self-esteem, and negatively related to depressive symptoms and shyness. The researchers also tested a path model using factor analysis and found a statistically

significant negative path coefficient for the structural link between SSE and shyness. In an earlier study to develop and validate an instrument to measure SSE in a similar sample of young adult students ( $N = 354$ ; mean age, 18.8 years), Smith and Betz (2000) had found SSE to be strongly related to both social confidence and enterprising confidence, and negatively related to shyness.

Other empirical studies have shown that high SSE contributes greatly to adolescents' and young adults' sense of well-being, acts as a psychological mediator of adolescents' health and academic accomplishment (Meyer & Kim, 2000), and is positively correlated with self-esteem (Caprara & Steca, 2005), social confidence (Anderson & Betz, 2001), improved performance in academic tasks (Malik & Amjad, 2010), problem-solving skills (Bilgin & Akkapulu, 2007), and online social trust (Wu, Wang, Liu, Hu, & Hwang, 2012). Low SSE, on the other hand, has been associated with socially phobic behaviors (Muris, 2002), and depression (Anderson & Betz, 2001).

SE has a solid theoretical and empirical track record extending back four decades. The brief evidence presented above suggests that ASE, ESE, and SSE can serve as an integral indicator of the school-related cognitive, intrapersonal, and interpersonal sense of competence of high school students. The construct of SE is versatile, can be scaled to fit, and can be applied to a wide variety of student performances, both academic and nonacademic, that end users such as school practitioners might be interested in examining.

As a step towards operationalizing SC and SE, these constructs have been divided into meaningful, malleable, and measurable domains in this section. In the following

section, empirical evidence connecting SC to SE is reviewed and gaps in the research are identified.

### **Empirical Evidence Relating SC to SE**

As referenced in Chapter I, student perceptions of both SC and SE have been found to be contingent on developmental stage. As such, research primarily centered on high school students is reviewed below. Studies that include various domains of SC in relation to SE are featured first, followed by research focusing on each of the three domains of SC under study in relation to SE.

#### **Studies Relating Various Domains of SC and SE**

Relatively few studies could be found that examine how a cluster of SC domains are associated with one or more of high school students' SE beliefs. Three are cited here. The first two studies show how multiple SC domains are associated with ASE while the last shows how classroom climate is associated with a hybrid of ESE and SSE called personal development SE.

In a multiple regression study relating achievement goals to SC domains and ASE, Pedditzi (2014) found that an SC emphasizing effort, understanding the content (as opposed to just getting the right answers), the belief that all students can learn and be successful, and where students felt they belonged had moderate effects on ASE among 14- and 15-year-old freshmen students ( $N = 336$ ). The regression model explained almost half of the variance in ASE. Students' desire to be recognized for their ability by respected others was not significantly related to their ASE, and their perceptions of an SC that recognized ability over effort had a slightly negative correlation with their ASE.

In another study on the relation between school image (fairly synonymous with SC) and ASE of high school students ( $N = 652$ ), Gafoor and Ashraf (2012) found roughly a tenth of shared variance between school image and ASE. Through further multiple regression analysis, the researchers found that one eighth of the variance in students' ASE was attributable to three dimensions of SC: the school's academic focus, its involvement with parents and community, and how professional its leadership was. Student gender, the school location (rural vs. urban), and the school subject did not make a significant difference in students' ASE.

Through an inferential study of students in 105 Hong Kong high schools ( $N = 16,208$ ), Cheung and Lai (2013) validated a structural path model that found both direct and indirect pathways between an efficacy-oriented classroom climate and students' personal development SE. Such a classroom climate significantly affected students' personal development SE, both directly and indirectly, through the mediation of deep learning strategies. Specifically, students who were encouraged and praised by their teachers, invited to share their views, and patiently guided to improve their strengths and redress their weaknesses had higher personal development SE scores as measured by their perceptions of their self-competence in understanding self, understanding others, handling setbacks, stress management and leisure time management. When students used deeper learning strategies—help seeking, higher level problem solving, cross-referencing ideas, and scaffolding—scores of personal development SE increased even more.

### **Studies Relating the TAL Domain of SC and SE**

Among the three domains of SC explored in the present study, research on how TAL relates to student SE, especially ASE, is the most abundant. As the TAL domain



encompasses the classroom, where students spend most of their time at school, it can potentially activate all four sources of SE. Early empirical research across grade levels, academic areas, and students' academic ability levels supported Bandura's hypothesized positive relationship between instruction and SE (Pajares, 1996; Schunk, 1995).

In an extensive report aimed at improving urban high school education titled *Engaging Schools: Fostering High School Students' Motivation to Learn*, the National Research Council and the Institute of Medicine (2004) reviewed, synthesized, and analyzed dozens of qualitative, correlational, or quasi-experimental studies revealing instructional factors that improved student outcomes. Some of the report's main findings indicated that:

- tracked courses, especially at the low achievement levels, tended to engender in students the belief that they lacked ASE;
- highly competitive classroom environments in which only high performers were publicly recognized had reduced overall student ASE;
- large impersonal learning environments with low standards were associated with teachers who delivered watered-down curricula and students with doubts about their ASE;
- classroom environments of high academic press and high expectations were associated with higher student ASE;
- school work that was *optimally challenging*, involving tasks that were difficult but achievable, was essential to development of student ASE;
- extra nonpunitive and accessible academic supports such as tutoring improved low student ASE;

- frequent student evaluation and feedback for the purpose of improving student outcomes and based on clearly defined criteria tied to goal achievement enhanced students' ASE.

The report clearly showed the conditions for activating sources of ASE through enactive mastery performances and the verbal persuasion of teachers, and for stifling ASE development by reducing the number of students who visibly succeed in a competitive classroom environment. Studies by Pajares (2005) and Schunk and Meese (2005) confirmed that, when teachers promoted competitive environments and normative evaluation of performance goals instead of individual mastery and self-improvement, adolescents showed a decline in their SE beliefs. Conversely, adolescent students tended to maintain their ASE and competence when they were immersed in a classroom climate that promoted self-improvement, individual effort, meaningful learning and collaboration, and where their interests were emphasized (Greene, Miller, Crowson, Duke, & Akey, 2004; Meece, Herman, & McCombs, 2003; Urdan & Midgley, 2003).

Schunk and Pajares's findings (2002) echoed the *Engaging Schools* report findings regarding the relationship between teacher evaluation and feedback and student ASE development. In their study summarizing over a decade of empirical research findings "across grade levels, academic areas, and student's academic ability" (p. 15), they found that *performance* and *attributional* feedback given by teachers were especially effective in bolstering student ASE. When students received steady performance feedback, they obtained information about progress towards their goals, strengthening their ASE and sustaining their motivation. When they received attributional feedback, they were better able to link outcomes to one or more causes. Students' ASE was more

effectively reinforced when their early successes were attributed to effort and only later to ability. ASE was also bolstered by rewards directly related to increased performance.

Several studies highlight how the TAL domain can activate the ASE sources of verbal/social persuasion and vicarious experiences. In studies involving upper elementary and middle school samples, Dweck (2000) and Molden and Dweck (2006) explored in greater depth how individual teachers could sway students to believe in their own ASE. Teacher coaching, mentoring, and encouraging bolstered student ASE, if the academic SC promoted a growth mindset about student ability instead of a fixed one. In an SC with a fixed mindset, students were less likely to benefit from the outlier teachers' encouragement and found verbal persuasion to be more hit-or-miss and differentially successful. Schunk and Zimmerman (2007) summarized over a dozen intervention studies from elementary school through college that showed how effective modeling by teachers of reading and writing processes vicariously improved student ASE with these subjects.

Only a handful of studies relate the TAL domain of SC with SSE and/or ESE. Dunbar, Dingel, Dame, Winchip, and Petzold (2018) refer to an empirical study by Droessler, Jerusalem, and Mittag (2007) which found that students who engaged in cooperative learning strategies showed increased SSE scores after one year of school while control groups showed no such increase. Dunbar et al. (2018) also cite a study by Satow and Schwarzer (2003) that found a strong correlation between perceived changes in classroom climate and changes in SSE. In a study of university students from a wide variety of majors at a British university, Pool and Qualter (2012) found a higher sense of ESE in an intervention group that was taught emotion management skills over the course

of a semester as compared to the ESE of a control group. The marginal increase in ESE for students in the intervention group was evident for students with the same average ESE scores and lower-than-average ESE scores than their peers in the control group.

### **Studies Relating the INT Domain of SC and SE**

Research from the field confirms that the sources of SE most supported by the SC domain of INT are vicarious experiences and verbal/social persuasion. In a summary of studies about adolescent ASE and its relation to their motivation, Schunk and Miller (2002) found that adolescent ASE was especially influenced by how respected peers performed on similar tasks. This influence was consistent whether the peer association was because of similar gender, ethnicity, or interests, and whether the tasks were academic or athletic, easy or difficult. The researchers found that vicarious experiences exerted a greater effect on students when they faced unfamiliar tasks, such as when they entered new classes or were introduced to new units. Schunk and Meece (2005) summarized longitudinal results on how peer social influences affected adolescents' ASE finding that adolescent peer networks expanded as they grew older, enhancing the possibility of multiple vicarious experiences and the influence of peer modeling. Schunk and Meece found a significant decline in academic motivation as students moved from childhood into adolescence and speculated that the decrease was at least partially due to the likelihood that students were judging themselves against their larger peer groups.

Although the negative effect of this peer influence on motivation begins to wane somewhat in high school, it remains significant. In their book *Beyond the Classroom*, Steinberg, Brown, and Dornbusch (1996) examined data from a 10-year longitudinal study of over 20,000 high school students in two states to explain the declining

achievement rate of high schoolers. They found that freshmen with similar grades finished their senior years with different grades depending on the group they affiliated with. Students who affiliated with academically inclined groups ended their high school careers with higher grades than those who affiliated with less academically oriented groups. Schunk and DiBenedetto (2016) attributed this social effect on student performance to students' individual and collective ASE being influenced by peer group academic socialization.

Nelson and DeBacker (2008) examined a hypothesized path model relating several school social factors with the science ASE of middle and high school students ( $N = 284$ ) from a large suburban school district in the South. Through a regression analysis the researchers found moderate zero-order correlations between students' sense of classroom belongingness and best friend's academic valuing with their science ASE. Students who felt they were socially accepted, valued, and respected in class and had a best friend who was academically inclined tended to have higher ASE marks, suggesting that the ASE sources of social/verbal persuasion and vicarious experiences could be at work.

Pedditzi and Marcello (2018) conducted a correlational study of Italian freshmen and senior high school students ( $N = 2,623$ ) to examine the relationship between the school social context and students' ASE. The researchers tested an *ad hoc* path model using structural equation modeling and found moderate direct relationships between students' possession of social capital and their ASE beliefs. They also found that the teacher-student relationship factor was only significantly predictive of ASE for female students. Pedditzi and Marcello speculated that traditional roles of gender

socialization—with expectations of male aloofness and female connectivity—may explain the higher correlation between female ASE and teacher-student relationships.

### **Studies Relating the INE domain of SC and SE**

The degree of connectedness, belongingness, and engagement that students feel to school because of their curricular and extracurricular involvement can influence all four sources of SE. No consensus exists in the literature reviewed about the distinctions between being connected, belonging, and being engaged, but they refer in general to students' cognitive, affective, and behavioral attachment to school because of perceptions and feelings associated mainly with relationships to school staff members such as teachers, coaches, and administrators (García-Moya, Bunn, Jiménez-Iglesias, Paniagua & Brooks, 2018). Five studies highlight how student attachment to school affects student ASE through direct or indirect paths, and one study shows how student belonging affects SSE. The dearth of peer-reviewed research of how a sense of connectedness, belongingness, and engagement is related to the affective domains of ESE and SSE is surprising but is confirmed by Allen, Kern, Vella-Brodrick, Hattie, and Waters (2018) in a meta-analysis of over six hundred studies. The researchers found only one reference to an article about how SSE was related to school belongingness among secondary students (a study by Caraway, Tucker, Reinke, & Hall, 2003); upon closer inspection of the single study cited, the SSE scale had been omitted from the SE survey administered to the sample in the study.

In a comprehensive meta-analysis of 26 studies from 1990 to 2014, Chang and Chien (2015) examined the relationships between ASE and three dimensions of student engagement of U.S. students from elementary school through college. The three

dimensions of student engagement investigated were behavioral, emotional, and cognitive and corresponded with the degree to which students committed their time, emotional investment, and brain power, respectively, to school-related learning activities and coursework. Using a random effects model to compare studies with heterogeneous effect sizes, Chang and Chien found moderate correlations between ASE and behavioral engagement, emotional engagement, and cognitive engagement. They also found that school level moderated the relationship between ASE and engagement, with secondary level education having a much greater moderating effect than primary school.

Roeser et al. (1996) tested a mediational model on students at two predominantly white suburban middle schools ( $N = 296$ ) examining the connection between teacher-student relationships, belonging in school, ASE, and academic achievement. The researchers found that the quality of teacher-student relationships was the strongest predictor of feelings of school belonging, and that students' sense of belonging mediated the relationship between teacher-student relationships and ASE.

How much students were liked by school staff and peers did not affect student ASE in a correlational study of a sample of 40 African American male high school students in a small urban school in the Southeast. Through a multiple regression analysis, Uwah, McMahon, and Furlow (2008) found African American male students' perceptions of school belonging to be significantly correlated with ASE, but only insofar as the students felt they were "the recipients of direct, targeted invitations to participate in school programming, either academic or extracurricular" and not because of "being liked by others" or having a "general impression of membership" (p. 302) to the school.

In a correlational study on low income students with disabilities, McMahon, Parnes, Keys, and Viola (2008) examined a model testing the impact of school conditions (social stressors and resources) on school belonging and the mediation of the sense of belonging between school conditions and students' ASE. Using a sample of 136 low-income African American and Latino students in Grades 5 to 12 in Chicago, the researchers found school belonging to be significantly correlated with student ASE and that school belonging mediated the relationship between school stressors and school resources and ASE. In a related longitudinal cohort study, McMahon et al. (2009) examined the effect of classroom environment and sense of school belonging on the language, math, and science ASE of low income ethnically heterogeneous urban fourth- and fifth-grade students ( $N = 149$ ). The researchers found that language arts ASE but not math and science ASE was significantly correlated with school belonging. In a subsequent multiple regression analysis, the researchers introduced prior levels of student ASE, classroom environment dimensions, and sense of school belonging into the analysis in steps to account for how each factor influenced ASE and to account for any shared variance that might be overlooked. The significant positive correlations found between classroom environment dimensions and sense of school belonging revealed how a cohesive class structure and a sense of school pride enhanced student ASE. Conversely, students who felt their classroom environments were conflictive, difficult, and competitive were not as connected to their schools and showed decreased ASE.

Kia-Keating and Ellis (2007) found that among a sample of adolescent Somali refugees ( $N = 76$ ) resettled in three U. S. states, a greater sense of school belonging was significantly associated with higher SSE, regardless of the subjects' level of past



exposure to adversities. More than one-quarter of the variation in SSE was uniquely explained by a sense of school belonging.

Empirical findings substantiate a positive association between the individual domains of school climate—TAL, INT, and INE—and domains of student SE, especially ASE. Studies on how all three domains of SC are associated with the three domains of student SE could not be found in the academic literature, however.

### **Summary of Literature Review and Need for the Study**

Binet and Simon (1916), who designed the first IQ tests, knew that ability was a necessary but not sufficient condition for desirable student outcomes. They wrote that success in school “admits of other things than intelligence; to succeed in his studies, one must have qualities which depend especially on attention, will, and character” (p. 254). Ample evidence suggests that one such quality, SE, the preeminent personal factor in Bandura’s (1986) TMRD, is a vital accessory for student success at school. The environmental factor of SC has been demonstrated to play an important role in SE development by activating Bandura’s (1994) four theorized sources of SE.

Empirical studies have demonstrated associations between single domains of SC and SE among elementary and middle school samples primarily. The present study reveals whether a set of widely adopted SC domains—TAL, INT, and INE—are related to a set of interlocking SE beliefs—ASE, ESE, and SSE—among high school students, which would support a theorized pathway to student achievement as conceived in Bandura’s TMRD.

### III. METHODOLOGY

This chapter is divided into the following sections: (a) methodology selection and justification, (b) explanation of research design, and (c) summary of methodology. Terms such as methodology, research design, and methods are often confused in social science research. As such, Crotty's (2003) lexicon in his book *The Foundations of Social Research* was adopted for the present study.

#### **Methodology Selection and Justification**

This design of this study is observational (i.e., nonrandomized) and cross-sectional with data acquired using survey research methods. The rationale to use correlational analysis to answer the research questions posed in this study is as follows. First, it is consistent with the aims of critical realism, the meta-theoretical perspective that guides the research (Owens, 2011). The aim of critical realism is to uncover possible causal connections that can transform the social world through practical action (Bhaskar, 2008). While the present study was not designed to reveal causal connections between SC and SE, it did verify whether relationships exist, a precondition for causation.

Second, a nonexperimental study using correlational analysis allows researchers to detect the magnitude and significance of any relationships between SC and SE (Cohen, Cohen, West, & Aiken, 2003; Creswell, 2009). A descriptive analysis alone is unable to provide such information in answering the research questions posed in the present study.

Third, survey research (i.e., a nonexperimental design) is apt when certain methodological conditions need to be met. Fowler (2014) describes two of these needs: a standardized measurement that is consistent across all respondents for comparative purposes, and certain kinds of critical data paired to other data for a given analysis. The

present study was designed to provide school practitioners with standardized SC and SE data they can review and compare.

This observational study paired with correlation analyses was used to answer the following nine research questions and associated hypotheses:

RQ1: To what extent are high school students' perceptions of the teaching and learning domain of SC related to their perceptions of academic SE?

H1: There is a significant positive relationship between students' perceptions of the teaching and learning domain of SC and their perceptions of academic SE.

RQ2: To what extent are high school students' perceptions of the teaching and learning domain of SC related to their perceptions of emotional SE?

RQ3: To what extent are high school students' perceptions of the teaching and learning domain of SC related to their perceptions of social SE?

RQ4: To what extent are high school students' perceptions of the interpersonal relationships domain of SC related to their perceptions of academic SE?

RQ5: To what extent are high school students' perceptions of the interpersonal relationships domain of SC related to their perceptions of emotional SE?

RQ6: To what extent are high school students' perceptions of the interpersonal relationships domain of SC related to their perceptions of social SE?

H<sub>6</sub>: There is a significant positive relationship between students' perceptions of the interpersonal relationships' domain of SC and their perceptions of social SE.

RQ7: To what extent are high school students' perceptions of the institutional environment domain of SC related to their perceptions of academic SE?

RQ8: To what extent are high school students' perceptions of the institutional environment domain of SC related to their perceptions of emotional SE?

H<sub>8</sub>: There is a significant positive relationship between students' perceptions of the institutional environment domain of SC and their perceptions of emotional SE.

RQ9: To what extent are high school students' perceptions of the institutional environment domain of SC related to their perceptions of social SE?

H<sub>0</sub>: Variables representing the teaching and learning, interpersonal relationships, and institutional environment domains of SC are not related to academic SE, emotional SE, and social SE.

### **Explanation of Research Design**

The elements of the research design are explained in this section including: (a) the population, sample, and setting; (b) protection of human subjects; (c) procedure for data capture; (d) variables analyzed; (e) instrumentation; and (f) treatment of data and hypothesis testing.

#### **Population, Sample, and Setting**

While the theoretical (target) population of the present study was high school students in public schools, the accessible population included students attending *small* public high schools. In the present study, a small public high school was defined as having a student body of less than 600 students using Iatarola, Schwarz, Stiefel, and Chellman's (2008) classification. The unit of analysis for the present study was a high

school student. A convenience sample of 238 students from the 10th and 11th grades were drawn nonrandomly from a public charter high school in an urban setting in Texas. The school, in its third year of operation, opened with only a ninth-grade class its first year adding one new grade level per year.

At the time of the sampling for the present study, the student body consisted of 415 ninth-, 10th-, and 11th-grade students. The sampling frame of students from the upper grade levels was deliberate; these students had attended the school for a year or more reducing the likelihood that their reports of SC were clouded by their middle school experience. The student body of the high school was 33% female and 67% male, 84% Hispanic, 4% African American, and 9% White, with 3% English Language Learners, 56% economically disadvantaged, 9% classified as special education students, and an at-risk population of 50%. As a requirement of the school's charter, half the student body were in-district students while the other half commuted from surrounding school districts.

Using guidance from Cohen (1992), it was estimated that for a significant correlation coefficient at a  $\alpha = .05$  level of significance, with power of .80 ( $\beta = .20$ ), and a medium effect size with 0 indicating no relationship, .10 to .29 indicating a small relationship, .30 to .49 a medium relationship, and .50 to 1.0, a large relationship, a minimum of 85 students were needed for the study sample. Because of multiple comparisons—a *family* of tests—conducted on the same data set to answer the nine research questions posed in the study, a Bonferroni correction was applied adjusting the significance level to  $\alpha = .006$  ( $.05/9$ ) as recommended by McDonald (2014). A more conservative significance level helps account for the familywise error rate, as the chances of observing a significant event due to chance alone increases when multiple hypothesis

are tested. The stricter criterion for the Type I error rate ( $p < .006$  vs.  $p < .05$ ) means that there is less than a 1% chance of incorrectly rejecting the null hypothesis (i.e., mistakenly identifying a *false positive result*).

A decreased chance of committing a Type I error increases the chance of committing a Type II error (i.e., not rejecting the null hypothesis by mistakenly identifying a *false negative result* and misreading the results as not being significant; Cohen, 1988). The power level of .80 was set to help ensure there was only a 20% chance of committing a Type II error.

The population, sample, and setting were described in detail in this section to help protect the integrity of the study's results and conclusions. The following section includes the steps taken to protect the rights of the students sampled for the study.

### **Protection of Human Subjects**

The present study was conducted in accordance with the requirements instituted by the Texas State University Institutional Review Board (IRB) and the school district's District Research Review Committee. Applications were submitted and approved by the IRB and District Research Review Committee before data was collected (see Appendices C–E, for the approval notices, and Appendices F–H for the parental/guardian permission and personal consent forms).

Steps were taken to minimize risks and possible discomfort to the respondents. These steps included: (a) allowing students to complete the survey on their own at home or during their daily advisory period at school instead of academic class time; (b) administering a survey of reasonable length and completion time (less than ten minutes, on average) to avoid respondent burden; and (c) using Qualtrics, an online survey

platform, for more rapid data entry and to help ensure participant confidentiality. Student data were stored in a password-protected file accessible only to the researcher.

Additional details of the data capture process and of the steps taken to protect students' confidentiality are described in following.

### **Procedure for Data Capture**

As a part of the IRB and district approval process for the study, the campus principal was contacted to obtain permission to promote the study, recruit participants and conduct the survey among the sophomore and junior classes. The principal's approval was encouraged with the promise of a user-friendly electronic copy of the results that would be provided to the school's administrative team once the study was completed.

With all the requisite authorizations secured, advisory teachers of the 10th and 11th grade were informed through email as to their roles in making students aware of the survey through a short promotional video. Teachers were also provided a timetable that included dates for distributing and collecting the requisite parental/guardian permission forms and personal consent forms. A charismatic student at the school was enlisted to help prepare the video promoting the study, its importance, its requirements, the incentives for students to volunteer for the study, and the disclaimer that nonparticipation in the study had no negative effects on either attendance or grades. The incentives for participation included candy bars and the opportunity to take part in the raffle of four gift cards.

Two weeks prior to the data capture event, the advisory teachers of 10th and 11th grade were instructed to show the video to their advisory students and then to distribute

any required survey documentation, parental/guardian permission slips, and personal consent forms required by the IRB, district, and campus. The documentation was made available in both English and Spanish. No signatures were visible on the first page of the documentation packet to help ensure students' confidentiality. Students who were eighteen years of age or older were not required to get parental/guardian permission slips signed to participate in the study.

Students were given a week and a half to return their completed documentation. Advisory teachers were asked several times via email to remind their students to return their completed documentation before the deadline. Students were also reminded in the daily announcements shared through the school's intercom system, through group email reminders to both participating grade levels, and through the smartphone *Remind* app set up for each grade level.

Once all the completed student documentation was collected from the advisory teachers, the authorized student participants were identified. All signed documentation was stored in a secure location on campus under lock and key. Authorized participants were informed through email of their approval to take the survey, the instructions to complete it, and the time window of one week for taking it.

On the first day of data capture, authorized students received emails with the link to the online survey, the reiterated instructions for completing it, and their timetable for completing the survey. Through the daily announcements, group emails to both participating grade levels, and the *Remind* app, authorized students were periodically reminded during the week-long data capture event that the survey was active and that they had a certain number of days left to complete it.



The survey, prepared through the Qualtrics survey platform, required students to enter their correct school emails, which were verified against a database of authorized survey respondents, before they could begin. To protect the integrity of the survey, the email address access step only allowed each user a one-time access to the survey. At the beginning of the survey, students were reminded that no personally identifiable data was collected on the survey, that there were no wrong answers, that the survey was not for a grade, that if they eventually chose not to participate it would in no way adversely affect their grades/attendance, and that they were encouraged to answer truthfully as their identities would be kept confidential.

Students' perceptions of SC were collected using scales and items from the ED School Climate Student Survey (EDSCLS) and their SE beliefs using scales and items from the Self-Efficacy Questionnaire for Children (SEQ-C). The estimated completion time for the survey was five to ten minutes, well within the 45-minute time allotted for the advisory period if students opted to use that time to complete it.

At the end of the survey, participants who wished to receive a candy bar and participate in the gift card raffle were directed to click a hyperlink that took them out of the survey and to an online form in which they typed in their emails and candy bar choice. The form was in no way linked to the survey answers students gave, preserving the confidentiality of the results.

The detailed procedure for data capture helped ensure that reliable and valid responses were obtained for the variables under study while respecting students' confidentiality and their rights as test subjects. The variables analyzed are described in detail below.

## **Variables Analyzed**

Four demographic variables including age, sex, race and ethnicity, and grade level; three SC variables including TAL, INT, and INE; and three SE variables including ASE, ESE, and SSE, were measured in the present study. Demographic variables were collected and descriptively reported in the present study but were not subject to further analysis. This omission was not critical since Bandura's (1986) SCT posits that personal factors such as race, gender, socioeconomic status, and prior achievement do not affect human behavior directly. Rather, these factors affect behavioral factors in the degree to which they influence people's aspirations, their beliefs in SE, personal standards, emotional states, and other self-regulatory forces (Pajares, 2002).

Mean (average) scores of student responses to the Likert-type questions/items clustered into six scales on the survey instrument were used to measure the SC and SE variables under study. Although Likert-type scale items adhere to an ordinal level of measurement, the mean (average) scores of student responses to the items can approximate an interval-level of measurement. This operation makes the data suitable for correlation analysis (Carifio & Perla, 2008; Wu & Leung, 2017). The survey instrument used in the present study and item/scale sources are described in detail in the following section.

## **Instrumentation**

Students' perceptions of SC and SE were obtained using items from the EDSCLS and the SEQ-C, respectively. This section describes the instruments and examines their historic use and validation in field work.

**The EDSCLS: source scale for SC.** The Office of Safe and Healthy Schools (2018) listed the EDSCLS on its list of 23 approved student-centered SC surveys. To qualify for this list the surveys had to (a) include at least 14 risk or protective factors of general interest to SC researchers and practitioners; (b) be psychometrically evaluated and found to be valid and reliable through testing of construct validity, scale/item reliability (e.g., internal consistency, test-retest), dimensionality (e.g., factor analysis, IRT), or measurement equivalence across subgroups; and (c) describe the sampling procedure, sample description, administration protocol, and data treatment.

The student version of the EDSCLS consists of 68 items and is calibrated for Grades 5 to 12. Five of the items are demographic and ask students their sex, grade, grade grouping (fifth to eighth grade or ninth to 12th grade), race, and ethnicity. The other 63 items, composed of a four-point Likert-type scale (*strongly agree, agree, disagree, strongly disagree*), are divided into subscales among which are the three domains of SC under study. For the TAL variable of SC, the instructional environment subdomain/scale consists of five items such as “My teachers praise me when I work hard in school.” For the INT variable of SC, the relationships and cultural and linguistic competence subdomain/scale consists of 14 items like “Students like one another.” For the INE variable of SC, the participation and emotional safety subdomains/scales consist of 12 items such as “There are lots of chances for students at this school to get involved in sports, clubs, and other school activities outside of class.”

Originally developed in 2013, the EDSCLS has been extensively tested and validated in a variety of high school settings nationwide. After conducting cognitive interviews of 78 educational stakeholders to test possible survey items to include in the

EDSCLS, The National Center for Education Statistics administered 32 usability tests on the interface of the EDSCLS platform (i.e., ease of use of software by respondents) and piloted the instrument in 50 schools in 16 sites across the country.

Individual test items of the pilot instrument were also calibrated using survey data captured from 2015 to 2017. Item calibration involves using a set of mathematical models aligned with item response theory to inspect scale items psychometrically and reveal characteristics such as their level of difficulty, discrimination, response consistency, and fit with other scale items (Bjorner, Chang, Thissen, & Reeve, 2007).

The USDOE also benchmarked the scale scores to help survey users interpret the meaning of the SC results more holistically. By converting students' scale totals into one of three performance classifications of "least favorable," "favorable," and "most favorable," comparisons could be drawn between students' perceptions of each domain. If students had a classification of "least favorable" on engagement, but "favorable" on environment, for example, then they had a higher opinion of how the school performed in the engagement domain compared to the environment domain (USDOE, 2018).

The scales on the EDSCLS survey were also tested for *classification accuracy* and *consistency*. Analogous to a test of reliability, a classification consistency test refers to the degree that respondents' scores on an EDSCLS scale would be classified the same way (fall into the same response category) in an independent administration (i.e., the same EDSCLS scale administered again to the same respondents in the same conditions). A test of classification accuracy, similar to a test of validity, refers to the degree to which respondents' observed responses on the scale would fall into the same response category as their true scores (i.e., the expected scores if the students took all possible versions of

the scale). All the EDSCLS scales surpassed both the classification accuracy and consistency cut off points of .70 (USDOE, 2018) when tested by the procedure developed by Livingston and Lewis (1995), the most widely used method when polytomous answers (multiple answer choices such as on a Likert-type scale) are available to respondents (Brennan, 2004; Deng, 2011). In other words, 70% of respondents (a) would have observed scores in a particular scale that were the same performance level (least favorable, favorable, most favorable) as their true scores; and (b) would be expected to be placed in the same performance level again based on observed scale scores collected in an independent but identical administration (USDOE, 2018).

The USDOE administered EDSCLS 92 times (at different schools and/or in different years) for their validation study. Psychometric testing was performed on three waves of student scores ( $N = 27,485$ ) from 2015 to 2017. The instrument demonstrated adequate internal consistency of the five subscales of interest with Cronbach's alphas of  $\alpha = .75$  for instructional environment,  $\alpha = .81$  for emotional safety,  $\alpha = .86$  for relationships,  $\alpha = .72$  for cultural and linguistic competence, and  $\alpha = .69$  for participation using Cohen's (1988) criteria.

Because all the EDSCLS items had been calibrated and the scales tested for classification accuracy and consistency, it was not necessary to administer the entire EDSCLS to obtain the desired SC data for the present study. The five subscales and their items sufficed as indicators for the TAL, INT, and INE variables.

**The SEQ-C: source scale for SE.** To collect data for SE, Muris's (2001) SEQ-C was deemed adequate. Muris initially tested the instrument (containing 24 questions, eight each for ASE, ESE, and SSE) on 330 Dutch boys and girls ages 14 to 17 (with a

mean age of 15.3 years) in Grades 8 to 12. The SEQ-C includes a Likert-type scale with five possible responses for each item ranging from 1 = *not at all* to 5 = *very well*. The instrument was designed so that the simple sum of the scores on each subscale represents the respondent's domain score for SE. ASE is measured with questions such as "How well can you study a chapter for a test?", ESE with questions such as "How well do you succeed in cheering yourself up when an unpleasant event has happened?", and SSE with questions such as "How well can you work in harmony with your classmates?" Muris found that the internal consistency reliability of the SEQ-C was satisfactory with Cronbach's alphas of  $\alpha = .88$  for the total SE score,  $\alpha = .88$  for ASE,  $\alpha = .86$  for ESE, and  $\alpha = .85$  for SSE using Cohen's (1988) criteria. He later tested the SEQ-C on a larger sample of 596 students, ages 12 to 19, from Belgium (Muris, 2002). An exploratory factor analysis supported a three-factor solution, accounting for 52% of the variance. He found Cronbach's alphas for a 21-item version of the scale to be  $\alpha = .84$  (ASE),  $\alpha = .86$  (ESE), and  $\alpha = .82$  (SSE) using Cohen's (1988) criteria.

Suldo and Shaffer (2007) tested the 21-item version of the SEQ-C on two samples of U.S. adolescents, primarily Caucasian and African American ( $N = 697$ ), from six rural schools—three middle schools and three high schools—in the southeastern United States. They also verified the criterion-related validity of the instrument by testing the relationship between the domains of SE and adolescents' responses to questions about positive and negative psychological functioning (e.g., life satisfaction and anxiety). Finally, they examined gender and age-related differences in mean SEQ-C scores.

The three-factor model of the SEQ-C was confirmed by exploratory factor analysis with oblique rotation in both samplings. Inter-factor correlations were

significant, positive, and moderate in magnitude ( $.41 < r < .49$ ), suggesting the independence of the three scales, although ASE and SSE noticeably emerged as the strongest and weakest factors in both samplings. The difference in factor structure between ASE and SSE scales was detected at the item level in both samples tested. The researchers found 19 of the 21 items were relatively pure indicators of the factors they represented (i.e., factor loadings were adequate relative to the theoretical structure of the scale). However, item 10, “How well can you get along with your classmates while working together?” which was intended to measure SSE, also loaded highly onto ASE. In one sampling, Item 3 did not load onto a single factor and in the other sampling, item 13 was similarly problematic. All three scales displayed Cronbach’s alphas above  $\alpha = .70$ , using Cohen’s (1988) criteria, in both samplings.

ESE was unrelated to respondent age (i.e., there was a nonsignificant difference between middle schoolers’ and high schoolers’ responses) in both samples but, ASE was slightly age-related in one study and SSE was age-related in the other.

In the tests of criterion validity, all three forms of SE showed a moderate to significant correlation with life satisfaction. High ESE showed a strong negative correlation with symptoms of anxiety in both samplings, as hypothesized, but SSE produced only small to moderate associations with indicators it was expected to be associated with like those related to interpersonal functioning (satisfaction with friends and family).

Suldo and Shaffer gave their preliminary support for the use of the SEQ-C to test multidimensional SE on U.S. adolescents. They recommended removing the problematic

item 10, however, and retesting the leaner version of the SEQ-C on new samples of adolescents from different race/ethnic groups, geographic areas, and age groups.

In a more recent and larger study, Minter and Pritzker (2015) examined the psychometric strength, including the cross-ethnic validity, of two subscales of the SEQ-C—ASE and SSE—on a larger ethnically diverse sample of early and late adolescents ( $N = 3,358$ ) at three suburban districts and two rural/town districts in Texas. They found a high Cronbach's alpha ( $\alpha = .85$ ) for ASE for the aggregate sample, using Cohen's (1988) criteria, with a range of .84 to .86 across racial/ethnic subgroups, and an aggregate Cronbach's alpha ( $\alpha = .81$ ) for SSE, with a range of .77 to .86 across subgroups. Valois and Zullig (2013) assessed Muris's ESE scale on a large U.S. sample of African American and Caucasian students ( $N = 2,566$ ), finding the measure to be both sufficiently valid (as assessed through two forms of construct validity) and reliable (as displayed by internal consistency estimates).

All the cited studies demonstrated relatively high reliability scores for SEQ-C. Several discrepancies in the findings, however, should be noted. Valois and Zullig (2013) found results that conflicted with both Muris (2001) and Minter and Pritzker (2015). Although Minter and Pritzker found little variance in scores across racial/ethnic groups, Valois and Zullig (2013) found that White students reported a significantly higher mean total ESE rating than Black students and that the gender differences observed between White girls and boys were greater than ones observed between Black girls and boys. Muris found significant gender differences in overall SE and ESE, with Dutch girls reporting lower levels of overall SE and ESE than boys, a result consistent



with Suldo and Shaffer (2015). Valois and Zullig (2013) discovered that U.S. girls scored significantly higher on ESE than boys.

Despite the discrepancies presented, the 21-item version of the SEQ-C was deemed appropriate for capturing valid and reliable scores in the present study. The shorter version, with comparable validity to the original, was chosen to reduce respondent burden, since students' perceptions of SC were also gathered at the same time. The SC items were negatively valenced and had to be reverse-coded. Following guidance by Suldo and Shaffer (2007) for the purpose of making items more age appropriate, the word "children," as in "How well do you succeed in staying friends with other children?" in several questions of the SEQ-C was replaced with the term "young people." To increase item readability for a U.S. audience and for colloquial U.S. English speakers, the phrases "can you" and "are you able to" were replaced with the phrase "do you succeed in." The item "How well can you prevent to become nervous?" was changed to "How well do you prevent becoming nervous?" In the item "How well do you succeed in passing all subjects?" the qualifier "school" was inserted before subjects. The simpler term "holding back" was substituted for "suppressing" in the item "How well do you succeed in suppressing unpleasant thoughts?"

The SC/SE survey length was 57 items, combining the five demographic questions, 31 SC items from the EDSCLS, and 21 SE items from the SEQ-C. Both the EDSCLS and SEQ-C are free to use, are not copyrighted, and do not require any express permissions to use. Because the two instruments have been extensively tested, the use of items and scales from them minimized threats to validity and reliability that could have compromised the subsequent data analysis and hypothesis testing.

## **Treatment of Data and Hypothesis Testing**

Once the data were acquired, they were imported into SPSS for screening and summarization. Descriptive analyses were used to derive measures of central tendency for each factor tested, the frequency distribution (or item distribution) of each response (e.g., normal, skewed), and the dispersion of the responses away from the central tendencies (e.g., variance, standard deviation, and range). By identifying erratic distributions of answers or outliers, descriptive statistics helped ensure data quality (Loeb et al., 2017). Data of reduced quality may have indicated data collection problems such as the misinterpretation of survey items or instructions by respondents, technical problems with the survey software or internet connection, and/or participant response bias or apathy. The data screening process also verified that the data met the requisite assumptions for a correlation analysis.

After descriptive analyses were complete, correlational analyses were conducted to answer the research questions guiding this study. Correlational analyses proceeded by estimating the zero-order bivariate relationships among the three SC variables and three SE variables. Only bivariate relationships were examined in this study (i.e., only the associations between two variables at a time were examined with no third variable included in any analyses).

Nine research questions and hypotheses were evaluated in this study. Since nine separate analyses were conducted, each correlational analysis was conducted using a Bonferroni correction for inflated Type I error (i.e., the Type I error rate was set at  $.05/9 = .006$ ). The  $p$  value designation of .05 (expressed as a probability) signifies the chance that a false positive is observed. In other words, the  $p$  value is a probabilistic cut point

used to reject or fail to reject the null hypothesis  $H_0$  that there is no relationship (i.e., zero correlation) between SC and SE variables. The accepted cutoff is  $p < .05$ , meaning that there is no more than a 5% chance that the researcher has identified a false positive (Cowles & Davis, 1982). The Type I error rate (.05) was divided by the number of hypotheses tested to control for an inflated Type I error rate. For any pairwise correlation statistic to be deemed statistically significant, a probability value less than .006 had to be observed.

In addition to determining if the results were statistically significant ( $p < .006$ ), the correlation coefficients provided more detailed information about the magnitude of the relationships between SC and SE variables, with  $.10 < r < .29$  indicating a small relationship,  $.30 < r < .49$  indicating a medium relationship, and  $.50 < r < 1.0$  indicating a large relationship (Cohen, 1988). Interpretation of the Pearson correlation provided a measure of practical effect through interpretation of the size and sign of the coefficient.

In this section, components of the research design were presented including the population, sample, and setting from which data were acquired; the steps taken for the protection of human subjects; the procedure followed for data capture; the variables analyzed; the instrumentation used to collect data; and the treatment of data and hypothesis testing to answer the research questions.

### **Summary of Methodology**

In Chapter III, a cross-sectional quantitative survey research methodology was presented accounting for both theoretical and practical considerations. A self-report questionnaire with Likert-type scale items was described and the procedure for data capture to ensure the integrity of the process and confidentiality of the subjects was

recounted in detail. Finally, a rationale for the use of descriptive and inferential statistical analyses and hypothesis testing was explained. Pairwise zero-order bivariate correlation analyses were justified as being adequate for revealing any associations between the SC and SE variables under study; whether these relationships were significant; and, if so, the magnitude and direction of the relationship.

#### IV. ANALYSIS

The purpose of this quantitative study was to determine if a relationship existed between high school students' perceptions of SC and their beliefs in their SE. Tenth and 11th graders at an urban high school in Texas were surveyed to examine their perceptions of three domains of SC at their school—teaching and learning (TAL), interpersonal relationships (INT), and institutional environments (INE)—and whether they were related to their beliefs in their academic SE (ASE), emotional SE (ASE), and social SE (SSE).

The following analysis consists of seven parts: (a) the data collection results and respondent demographics; (b) the data screening procedure; (c) a reliability analysis of the SC/SE survey; (d) descriptive analysis (revealing the measures of central tendency and dispersion of the responses); (e) testing assumptions prior to correlational analyses; (f) correlational analysis of SC and SE domains; and (g) a summary of the results of all analyses.

##### **Data Collection Results and Respondent Demographics**

A convenience sample of 10th- and 11th-grade students ( $N = 238$ ) were invited to participate in this study. Sixty-three students returned their parental/guardian permission forms and personal consent forms signed and participated in the survey, posting a 26% return rate. The sample size did not meet the minimum sample size requirement ( $N = 85$ ) to conduct a Spearman's rho product-moment correlation with an  $\alpha = .05$  level of significance (adjusted to  $\alpha = .006$  using a Bonferroni correction due to multiple comparisons being performed on the same data set), a power of .80 ( $\beta = .20$ ), and a medium effect size, calculated using Cohen's (1988) criteria. The result of the reduced sample size includes a reduction in statistical power and an increase in Type II error rate,

meaning an increase in the probability of incorrectly retaining the null hypothesis, when in fact it is not applicable to the entire population.

Participants were 34% females ( $N = 21$ ) and 66% males ( $N = 42$ ), with 64% of participants being 10th graders ( $N = 40$ ) and 36% being 11th graders ( $N = 23$ ). Seventy-nine percent of participants identified as Hispanic and twenty-one percent as non-Hispanic. Seventy-four percent of participants identified as White, 7% as African American, 5% as American Indian/Alaskan Native, 7% as Asian, 3% as Native Hawaiian/Pacific Islander, and 16% as Other (students could mark more than one answer).

### **Data Screening Procedure**

The survey was conducted online using the Qualtrics survey platform. A cutoff of four minutes was set as a reasonable minimum completion time for the 57-item survey, resulting in three surveys being dropped and a final sample size of 60.

The Qualtrics data set was exported to SPSS for further screening. The Likert-type response anchors for the six scales on the survey—one for each of the six variables under study—were given numerical equivalents. The SC scale response anchors were reverse coded with response choices ranging from 1 to 4. A response marked *Strongly disagree*, originally coded as 4 in SPSS, was recoded as 1, *Disagree* as 2, *Agree* as 3, and *Strongly agree* as 4. The SE answer choices ranged from 1 to 5; answers marked *Not at all* were coded as 1, *Slightly well* as 2, *Somewhat well* as 3, *Fairly well* as 4, and *Very well* as 5.

Students' responses were visually inspected to verify unusual response patterns, especially if their answers were the same for most/all items. All response patterns

showed sufficient variation to merit retention and there was no evidence of significant ceiling or floor effects, meaning excessive clusters of answers at the positive and negative ends of the scales, respectively (Dean, Walker, & Jenkinson, 2018). All respondents' response patterns changed when they moved from the SC section of the survey, which was reverse scored, to the SE section, which was not.

As the survey was completed online, few missing values were expected and only two items out of a possible 3,477 in the data set were left blank by respondents. One respondent left Q22 blank (related to the variable TAL) and another respondent left Q38 blank (related to the variable ASE). The blanks were replaced with the series mean (the average score of the respondent's other responses in the specific scale) in SPSS. While Tabachnick and Fidell (2014) recommend not being overly concerned about which method to choose to account for missing data when the data set is sufficiently large and the number of missing data points is 5% or less, the series mean was considered to be more accurate than either linear interpolation or the mean/median of nearby points. The missing items were deemed sufficiently distinct from the immediately surrounding items for doing a linear interpolation from the prior and following responses. Since items Q22 and Q38 appeared towards the beginning of their respective scales, the option of finding the mean/median of nearby points, which may have included items from previous scales, was also rejected.

### **Reliability Analysis of the SC/SE Survey**

The SC/SE student survey was checked for internal consistency reliability, which is a measure of how well the survey items measure the same construct or idea (Fowler, 2014). The reliability of the six scales that comprised the survey was verified in SPSS

through Cronbach's alpha using Cohen's (1988) criteria. Reliability was verified at the item level and scale level. Inter-item correlations were inspected to see if the items on each scale were tapping into the same underlying concept. The reliability analysis also examined what would happen to overall scale reliability if lower-performing items were deleted.

The results in Table 1 reveal adequate reliability of the SC/SE survey scales for the INT, INE, ASE, and ESE domains (Cronbach's  $\alpha > .80$ ). The scales for measuring the TAL and SSE domains fell into the acceptable range ( $.70 < \text{Cronbach's } \alpha < .80$ ). The reliability of the scales to measure INT and INE were found to be like the values for Cronbach's alphas for the same domains found in an extensive study by USDOE (2018) described in Chapter III. The reliability of the scales to measure ASE and ESE aligned well with Cronbach's alpha statistics found by Muris (2002) and Minter and Pritzker (2015). The lower reliability scores for the TAL (Cronbach's  $\alpha = .70$ ) and SSE (Cronbach's  $\alpha = .72$ ) scales on the survey were markedly lower than the published reliability values of the source scales they were drawn from (Cronbach's  $\alpha = .75$ , and  $\alpha = .85$ , respectively).

The low reliability score for the TAL scale was linked to the item: "My teachers expect me to do my best all the time." By removing this low performing item, the reliability score for the scale could be improved to Cronbach's  $\alpha = .71$ . By removing the item "How well can you tell other young people that they are doing something you don't like?" from the SSE scale, its Cronbach's  $\alpha$  improved to .74. Possible reasons for the low performance of these items and scales in comparison to the source scales are briefly covered in Chapter V.



Table 1

*Internal Consistency Reliability of SC/SE Survey Scales*

Variable	SC/SE Survey Item No.	No. of Items	Cronbach's $\alpha$ for study sample*	Source Scale Cronbach's $\alpha$
Interpersonal Relationships (INT)	6–19	14	.89	.72**(items 1–5) .86**(items 6–14)
Teaching & Learning (TAL)	20–24	5	.70	.75**
Institutional Environment (INE)	25–36	12	.86	.69**(items 1–6) .81**(items 7–12)
Academic SE (ASE)	37–43	7	.82	.88***
Emotional SE (ESE)	44–50	7	.84	.86***
Social SE (SSE)	51–57	7	.72	.85***

\* Using Cohen's (1988) criteria

\*\* USDOE (2018) using Cohen's (1988) criteria

\*\*\* Muris (2002) using Cohen's (1988) criteria

**Descriptive Statistics**

As explained earlier, the values of the six variables under study were obtained by deriving the mean (average) scores of student responses to the items in each of the six scales on the SC/SE survey. The mean of responses to Likert-type items can approximate an interval level of measurement (Carifio & Perla, 2008; Wu & Leung, 2017), allowing for certain statistical analyses, such as correlation, to be conducted. The means, standard deviations, coefficients of variation, and ranges for each of the six variables examined are listed in Table 2. Note that the possible values for the SC variables range from 1 to 4 while those for the SE variables range from 1 to 5.

Students' survey responses were above average relative to the domains of SC at their school: INT ( $M = 3.25$ ,  $SD = 0.40$ ), TAL ( $M = 3.24$ ,  $SD = 0.44$ ), and INE ( $M = 3.14$ ,

$SD = 0.44$ ). Likewise, students rated their beliefs in the three domains of SE as above average: ASE ( $M = 3.56$ ,  $SD = 0.67$ ), ESE ( $M = 3.20$ ,  $SD = 0.86$ ), and SSE ( $M = 3.63$ ,  $SD = 0.60$ ). The variability of scores (as measured by  $SD$  and  $CV$ ) revealed that among the

Table 2

*Descriptive Statistics for All Variables (N = 60)*

Variable	<i>M</i>	Standard Deviation, <i>SD</i>	<i>CV</i> *	Ranges**
Interpersonal Relationships (INT)	3.25	0.40	0.16	2.21–4.00
Teaching & Learning (TAL)	3.24	0.44	0.20	2.20–4.00
Institutional Environment (INE)	3.14	0.44	0.20	2.00–4.00
Academic Self-Efficacy (ASE)	3.56	0.67	0.46	1.86–5.00
Emotional Self-Efficacy (ESE)	3.20	0.86	0.75	1.43–5.00
Social Self-Efficacy (SSE)	3.63	0.60	0.36	2.29–5.00

\* Coefficient of variation

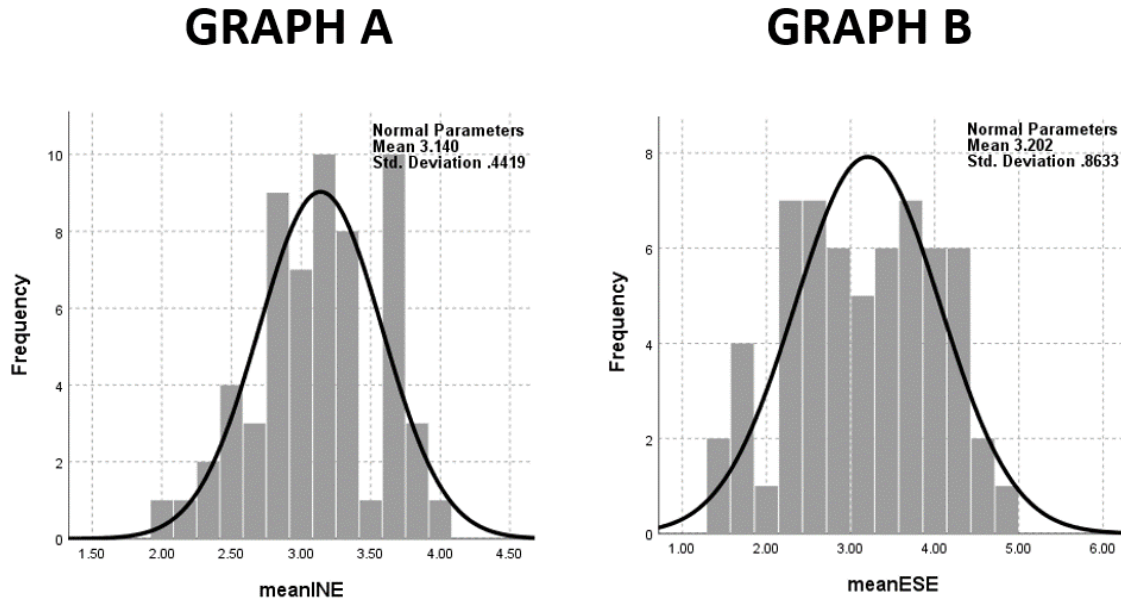
\*\* possible ranges for TAL, INT, and INE, are from 1–4, and for ASE, ESE, and SSE, from 1–5

SC variables, the spread of responses on average was about the same with slightly more variation in the TAL variable. Among the SE variables, the higher mean and lower variability revealed that students, on average, felt strongest about their sense of SSE when compared to ASE and SSE.

### Testing Assumptions Prior to a Correlational Analyses

The distribution of averages scores for the six variables were evaluated to ensure they fulfilled the requisite assumptions for conducting bivariate correlational analyses. First, the required assumptions were evaluated prior to conducting a Pearson's  $r$  correlational analysis. No outliers were identified from the analyses as respondents

were limited in their answers with Likert-type items. A visual inspection of the histograms (see Figure 4 for two examples) showed sufficient deviation from the normal distribution to require a more detailed analysis. Graph A shows the distribution for the SC domain of INE; the histogram is asymmetric, skewed to the right (most of the data falling to the left of the mean), and has a tail tending to the right. The distribution of ESE in the histogram shown in Graph B is more roughly symmetrical, skewed slightly to the left, fairly evenly tailed, but has negative kurtosis (i.e., has a plateau instead of a peak).



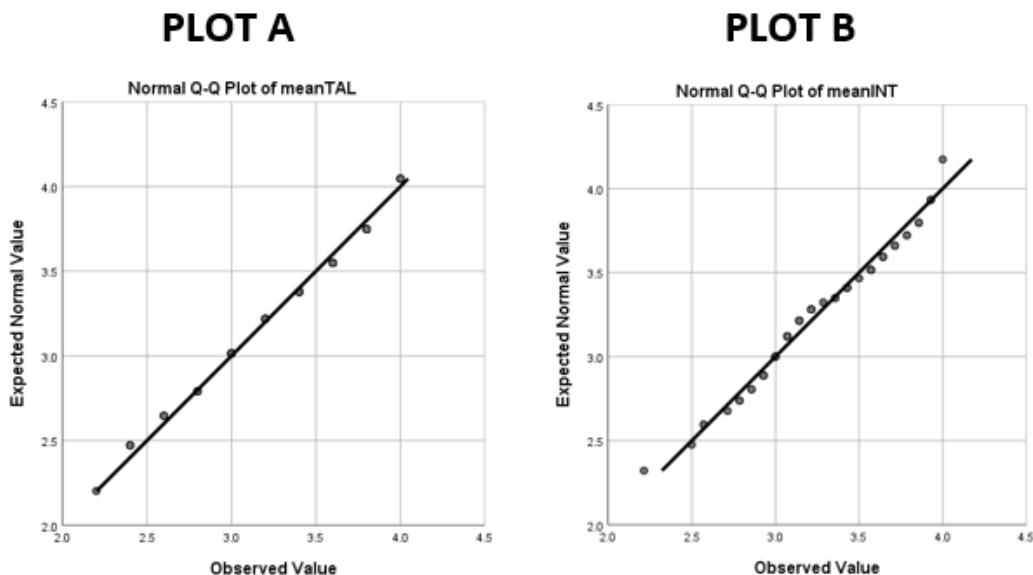
*Figure 4.* Histograms for mean INE and mean ESE.

Standardized skewness coefficients (i.e., skewness divided by the standard error of skewness) confirmed that five of the distributions were slightly negatively skewed ( $-.14$ ,  $-.53$ ,  $-.57$ ,  $-.62$ , and  $-.76$ ) and one distribution (for ASE) moderately skewed ( $-2.02$ ). Standardized kurtosis coefficients confirmed slightly kurtotic behavior for ESE ( $-2.02$ ).

( $-.97$ ) and TAL ( $-.92$ ) meaning the peaks of the graphs were flatter than normal, according to criteria established by Warner (2013) and Ghasemi and Zahediasl (2012).

Only the SE variables passed the Kolmogorov-Smirnov test (with the Lilliefors significance correction) for normality, however—ASE ( $D = .10, p = .200$ ), ESE ( $D = .09, p = .200$ ), and SSE ( $D = .11, p = .079$ ). This test requires  $p > .05$  for the variable data to be considered normally distributed (Ghasemi & Zahediasl, 2012).

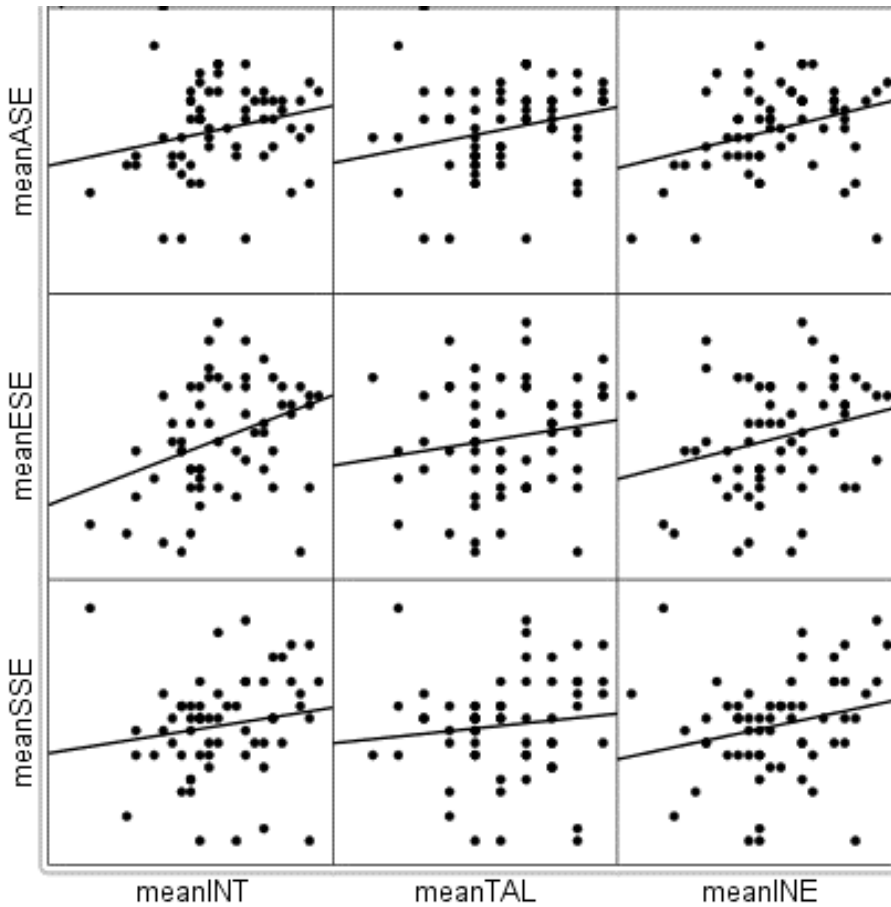
QQ Plots were also inspected in SPSS to verify normality more thoroughly. These graphs plot an ideal normal distribution as a straight line and then superimpose the datasets being tested on top of the line (see Figure 5 for two examples). For a normal distribution, random deviations from the normal line would occur in a consistent pattern



*Figure 5.* Normal-QQ plots for SC domains of TAL and INT.

on either side of the line (Barber, 2018). Only the TAL dataset followed the normal line with a QQ plot shown in Plot A of Figure 5. Substantial deviations from the normal line were found in the remaining five variables, yielding results like the ones shown for INT in Plot B.

With such mixed results for normality, the variable datasets were checked for linearity. The SC domains were plotted on the x-axis and the SE domains on the y-axis (see Figure 6). Linearity was barely discernible between the SC domain of INT and ASE but not so in any of the other relationships. Square root and natural log transformations



*Figure 6.* Scatter plots of means of SE domains vs. SC domains.

of the six datasets using SPSS did not improve the overall normality/linearity of the group.

Finally, the data sets were checked for homoscedasticity, meaning that the error term (or disturbance away from the normal distribution) is relatively constant across all the variables (Warner, 2013). Linear regression was run in SPSS to verify

homoscedasticity and all SE domains were homoscedastic when plotted against the SC domains except for SSE which showed slight heteroscedasticity.

Having failed to clearly meet the requirements for a Pearson's  $r$  analysis, variables in the data sets were tested to see if they met the two assumptions for the Spearman's rank order correlation coefficient (i.e., Spearman's rho), a nonparametric procedure. The two assumptions are: (a) the variables must be at an ordinal level of measurement or higher (i.e., they can be interval); and (b) there must be a monotonic relationship between the variables, meaning the variables must increase or decrease together (Warner, 2013). The scatterplots in Figure 6 show a monotonic relationship between all SC and SE variables, and, as previously established, all data sets were interval level. In conclusion, the data met the criteria for a Spearman's rho correlational analysis and this test was used in all subsequent correlation analyses.

### **Correlational Analysis of SC and SE Domains**

Nine correlational analyses were conducted to answer the research questions and test the hypotheses guiding the present study. A Spearman's rho correlation coefficient analysis was conducted to examine the zero-order bivariate relationships among the three SC variables and three SE variables. Due to the large number of research questions posed, tests of statistical significance for each correlational analysis were subjected to a Bonferroni correction for inflated Type I error (i.e., Type I error rate was set at  $.05/9 = .006$ ). The correlation coefficients and significance levels for Spearman's rho are shown in Table 3.

In addition to determining if the results were statistically significant ( $p < .006$ , with Bonferroni correction), the correlation coefficients ( $r_s$ ) provided more detailed

information about whether the magnitude of the relationships between SC and SE variables was small, medium, or large, using Cohen's (1988) criteria.

Table 3

*Spearman's rho Correlations Among SC and SE Variables (N = 60)*

Variables	1	2	3	4	5	6
1. Interpersonal relationships (INT)	–	.76**	.79**	.29	.37*	.28
2. Teaching and Learning (TAL)		–	.69**	.30	.16	.20
3. Institutional Environment (INE)			–	.31	.28	.28
4. Academic Self-Efficacy (ASE)				–	.33	.23
5. Emotional Self-Efficacy (ESE)					–	.29
6. Social Self-Efficacy (SSE)						–

\* Correlation is significant at the  $p < .006$  level (two-tailed), with Bonferroni correction

\*\* Correlation is significant at the  $p < .001$  level (two-tailed), with Bonferroni correction

### Research Question 1

Research Question 1 asked, “To what extent are high school students' perceptions of the teaching and learning domain of SC related to their perceptions of academic SE?” TAL had a positive correlation with ASE,  $r_s(58) = .29, p = .023$ , using Cohen's (1988) criteria with a Bonferroni correction, but the correlation was not significant. Hypothesis One ( $H_1$ ) stated that there is a significant positive relationship between students' perceptions of the teaching and learning domain of SC and their perceptions of academic SE. The results do not support the hypothesis.

### Research Question 2

Research Question 2 asked, “To what extent are high school students' perceptions of the teaching and learning domain of SC related to their perceptions of emotional

SE?” TAL was found to be positively correlated with ESE, but the correlation was not significant;  $r_s(58) = .16, p = .236$ , using Cohen’s (1988) criteria with a Bonferroni correction.

### **Research Question 3**

Research Question 3 asked, “To what extent are high school students' perceptions of the teaching and learning domain of SC related to their perceptions of social SE?” TAL was found to be positively correlated with SSE, but the correlation was not significant;  $r_s(58) = .20, p = .135$ , using Cohen’s (1988) criteria with a Bonferroni correction.

### **Research Question 4**

Research Question 4 asked, “To what extent are high school students' perceptions of the interpersonal relationships domain of SC related to their perceptions of academic SE?” INT was found to be positively correlated with ASE, but the correlation was not significant;  $r_s(58) = .29, p = .010$ , using Cohen’s (1988) criteria with a Bonferroni correction.

### **Research Question 5**

Research Question 5 asked, “To what extent are high school students' perceptions of the interpersonal relationships domain of SC related to their perceptions of emotional SE?” The analysis revealed a statistically significant positive relationship between INT and ESE;  $r_s(58) = .37, p < .006$ . The effect size of this relationship was medium using Cohen’s (1988) criteria with a Bonferroni correction. Squaring the correlation coefficient indicated that 13.9% of the variation in students’ beliefs in their ESE could be explained by their perceptions of the INT domain of SC.



### **Research Question 6**

Research Question 6 asked, “To what extent are high school students' perceptions of the interpersonal relationships domain of SC related to their perceptions of social SE?” INT was found to be positively correlated with SSE, but the correlation was not significant;  $r_s(58) = .28, p = .030$ , using Cohen’s (1988) criteria with a Bonferroni correction. Hypothesis Six ( $H_6$ ) stated that there is a significant positive relationship between students’ perceptions of the interpersonal relationships domain of SC and their perceptions of social SE. The correlation coefficient showed a nonsignificant positive relationship between INT and SSE providing no evidence to support the hypothesis.

### **Research Question 7**

Research Question 7 asked, “To what extent are high school students' perceptions of the institutional environment domain of SC related to their perceptions of academic SE?” The SC domain of INE was found to be positively correlated with ASE, but the correlation was not significant;  $r_s(58) = .31, p = .016$ , using Cohen’s (1988) criteria with a Bonferroni correction.

### **Research Question 8**

Research Question 8 asked, “To what extent are high school students' perceptions of the institutional environment domain of SC related to their perceptions of emotional SE?” The SC domain of INE was found to be positively correlated with ESE, but the correlation was not significant;  $r_s(58) = .28, p = .033$ , using Cohen’s (1988) criteria with a Bonferroni correction. Hypothesis Eight ( $H_8$ ) stated that there is a significant positive relationship between students’ perceptions of the institutional environment domain of SC and their perceptions of emotional SE. The correlation coefficient showed a

nonsignificant positive relationship between INE and ESE providing no evidence to support the hypothesis.

### **Research Question 9**

Research Question 9 asked, “To what extent are high school students' perceptions of the institutional environment domain of SC related to their perceptions of social SE?” INE was found to be positively correlated with SSE, but the correlation was not statistically significant;  $r_s(58) = .28, p = .032$ , using Cohen’s (1988) criteria with a Bonferroni correction.

### **Null Hypothesis Zero**

Null Hypothesis Zero ( $H_0$ ) stated that “Variables representing the teaching and learning, interpersonal relationships, and institutional environment domains of SC are not related to academic SE, emotional SE, and social SE.” This hypothesis was generally correct except for a statistically significant positive correlation between INT and ESE with a medium effect size.

Because the SC and SE scales had a different number of response anchors—four anchors for the SC scales and five anchors for the SE scales—two transformations were conducted to examine how the correlation matrices might be affected. First, the SC scales were transformed into five anchor scales so that the ranges of the SC and SE scales were equal when they were tested. Second, SC and SE scores were converted into standardized z-scores so that they could be compared in terms of standard deviations away from the mean. Both transformations resulted in slightly lower correlations being detected on average between the SC and SE domains as compared to the untransformed scores, but the changes were trivial. The correlation coefficients of the transformed

scores and original score for ESE and INE, the only significant correlation found in the present study, for example, were the same at two decimal places. As the two transformations did not substantially change the answers to the nine research questions and their accompanying hypotheses, their effects on the correlations were discounted.

The largest correlations revealed in the study included correlations between the SC variables themselves. The domains of INT and TAL,  $r_s(58) = .76, p < .001$ ; TAL and INE,  $r_s(58) = .69, p < .001$ ; and INT and INE,  $r_s(58) = .79, p < .001$ , showed statistically significant positive correlations with large effect sizes using Cohen's (1988) criteria with a Bonferroni correction. The SE variables were not strongly inter-correlated.

### **Summary of the Results**

In this chapter the survey data collected on students' perceptions of SC and SE beliefs was prepared for analysis through a process that included screening, validation, and coding. Items comprising the survey instrument subscales were evaluated for internal consistency and found to be at least acceptably reliable. Variables in the dataset were subsequently analyzed using descriptive and inferential statistics to answer the research questions and related hypotheses guiding the study. Results revealed that students' perceptions of SC domains were mostly unrelated to their beliefs in their SE generally confirming the null hypothesis. The exception was a single significant positive correlation of medium effect size between students' perceptions of the INT domain of SC with their beliefs in their ESE.

## **V. DISCUSSION**

The purpose of the present study was to explore associations between high school students' perceptions of SC and their beliefs about their school-related SE. If statistical and/or practical connections were revealed, such findings would align with those theorized by Bandura (1986) in his triadic model (TMRD) between a school-related environmental factor (SC) and an important personal factor (SE) associated with student learning, the behavioral factor in the triad. The research questions and hypotheses posed in the present study probed whether there was an association between the SC and SE variables and, if one existed, what the strength and direction of the association was. Survey research was used to acquire data from a student sample. The statistical analysis of the data collected examined zero-order bivariate correlations—meaning the associations between two variables at a time with no third variable controlled for—between student perceptions of the SC domains of INT, TAL, and INE, and student beliefs in their ASE, ESE, and SSE.

In the present chapter, the study findings are summarized, conclusions are drawn from the findings, the implications of the findings are discussed, the limitations of the study are addressed, and recommendations for future research are suggested.

### **Summary of the Study Findings**

A convenience sample of 10th- and 11th-grade students ( $N = 63$ ) at a public charter school in Texas, were surveyed using a validated and reliable survey instrument to gather their perceptions of SC and SE. Student responses were compiled, the survey instrument's reliability for the study sample was verified, and the collected data were screened and coded to prepare it for statistical analysis (data screening reduced the

sample size to  $N = 60$ ). Descriptive and correlational analyses were conducted in SPSS to answer the research questions and hypotheses that guided the study. The findings are summarized below.

### **Findings for Research Questions**

Research questions RQ1 to RQ9 inquired about the extent to which the three domains of SC–INT, TAL, and INE–were related to the three domains of SE–ASE, ESE, and SSE. Correlations between the SC and SE domains were found for all variables using the Spearman’s rho analysis and were suggestive of a positive relationship. Only one correlation (INT and ESE), however, was found to be significant with a medium effect size according to Cohen’s (1988) criteria.

Null Hypotheses Zero, which stated that there were no significant positive relationships between the SC domains and the SE domains, was found to be mostly true, with the exception noted for INT and ESE. Hypotheses 1, 6, and 8 proposed a significant positive correlation between the domains of TAL and ASE, INT and SSE and INE and ESE, respectively. These hypotheses were not supported by the evidence found in the present study.

### **Additional Findings**

A closer inspection of the scale items that served as indicators for the INT and ESE variables revealed a more nuanced finding about the single significant positive correlation found in the correlational analysis. All items on the ESE scale had to do with negative affect and students’ beliefs in their ability to rid themselves of negative emotions (e.g., “How well do you succeed in holding back unpleasant thoughts?”, “How well can you prevent yourself from becoming nervous?”, and “How well do you succeed

in cheering yourself up when an unpleasant event has happened?”). Eleven of the 14 items on the INT scale referred to the relationships that students have with their teachers and adult staff at school (see items 6 to 9, 11, 12 to 15, 18 and 19 in Figure 7). The remaining three items addressed students’ relationships with their peers (items 10, 16, and 17).

**(INTERPERSONAL DOMAIN [INT] OF SC)**

	Strongly Agree	Agree	Disagree	Strongly Disagree
6. All students are treated the same, regardless of whether their parents are rich or poor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Boys and girls are treated equally well.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. This school provides instructional materials (e.g., textbooks, handouts) that reflect my cultural background, ethnicity, and identity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Adults working at this school treat all students respectfully.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. People of different cultural backgrounds, races, or ethnicities get along well at this school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Teachers understand my problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Teachers are available when I need to talk with them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. It is easy to talk with teachers at this school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. My teachers care about me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. My teachers make me feel good about myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Students respect one another.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Students like one another.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. If I am absent, there is a teacher or some other adult at school that will notice my absence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. At this school, there is a teacher or some other adult who students can go to if they need help because of sexual assault or dating violence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Figure 7.* Survey scale for INT domain of SC.

Additional testing was conducted with a reduced INT scale that only included items related to student/adult interpersonal relationships. A reliability analysis revealed minimal differences between the internal consistency scores of the reduced scale and the original scale (both Cronbach's alphas rounded to  $\alpha = .88$ ). Further analysis showed that the reduced INT scale and original scale had comparable mean scores ( $M = 3.72$ ,  $SD = 0.44$ , as compared to  $M = 3.25$ ,  $SD = 0.05$ ), and that the modified INT variable and original INT variable had similar correlation matrices when paired with ASE, ESE, and SSE. As was the case with the original INT variable, the modified INT variable had a significant positive association with ESE,  $r_s(58) = .36$ ,  $p < .006$ , with a medium effect size using Cohen's criteria (1988) with a Bonferroni correction. These findings appear to suggest that students' relationships with their teachers and adult staff at school are significantly correlated with their confidence in their abilities to manage their negative emotions.

Although not a research question in this study, the correlational analysis revealed significant positive inter-correlations between all three SC domains under study. The inter-correlations displayed a large effect size using Cohen's (1988) criteria with a Bonferroni correction. The convergence among the SC domains provides evidence for the construct validity of SC (Trochim, Donnelly, & Arora, 2016) and for the claim made in the SC source survey user's guide that "some of these domains and topical areas are closely related to one another and include similar concepts" (USDOE, 2018, p. 83).

### **Conclusions**

The theoretical and/or empirical evidence supporting a positive relationship between high school students' perceptions of three SC domains and their beliefs in three

domains of SE is incipient and was reviewed in Chapter II. Several conclusions that extend the extant research can be drawn from the present study.

### **Conclusions for Research Question Q1**

Empirical research reviewed in Chapter II found that high school students' perceptions of the TAL domain of SC at their schools was positively related to their beliefs in their ASE (Greene, Miller, Crowson, Duke, & Akey, 2004; Meece, Herman, & McCombs, 2003; National Research Council and the Institute of Medicine, 2004; Urdan & Midgley, 2003). In other words, students' beliefs that they could successfully achieve at a designated level on an academic task or attain a specific academic goal (Bandura, 1997) was connected to the support students received from teachers for academic, social, emotional, ethical, civic, and service learning (NSCC, 2018a).

While the present study found ASE to be positively related to TAL, the correlation was not significant,  $r_s(58) = .29, p = .023$ . This finding was surprising considering the alignment of the TAL scale on the student survey with Bandura's four hypothesized sources that can activate SE (Bandura, 1986). These sources are (a) enactive mastery performances—one's actual past record of experience with similar performances; (b) social/verbal persuasion—the verbal encouragement, mentoring, and coaching one receives to perform the task; (c) vicarious experiences—how respected others have done in performing the same/similar tasks; and (d) emotional/physiological arousal—the emotional reaction one has had to performing similar tasks.

Bandura (1994) proposed that certain conditions at school can activate the four sources of ASE among students. ASE is nurtured in an SC in which students can examine and evaluate their knowledge and competencies in formal academic settings, can compare



their performance with respected peers, can enjoy class structures and practices that motivate students to set goals and persist in completing them, and can count on critical feedback from instructors about their performances. The items on the TAL scale from the SC/SE survey (see Figure 8) support the idea that positive teacher feedback (e.g., item 20), mentoring and coaching (e.g., item 21), and incentive structures (e.g., items 22, 23, and 24), are connected with higher student ASE.

**(TEACHING AND LEARNING [TAL] DOMAIN OF SC)**

	Strongly Agree	Agree	Disagree	Strongly Disagree
20. My teachers praise me when I work hard in school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. My teachers give me individual attention when I need it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. My teachers often connect what I am learning to life outside the classroom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. The things I'm learning in school are important to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. My teachers expect me to do my best all the time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Figure 8.* Survey scale for TAL domain of SC.

The small sample from which data were drawn ( $N = 60$ ) could explain the lack of a significant correlation between TAL and ASE. A minimum of 85 respondents was required for the power and significance level established in the study design. When the sample is not large enough to robustly detect or exclude meaningful effects, conclusions from the data can be compromised (Sullivan, Weinberg, & Keaney, 2016).

The relatively low reliability score for the TAL scale (Cronbach's  $\alpha = .70$ ) compared to the other scales on the student survey, may have slightly influenced the correlation between the variables. The scale's relatively low performance in the present study is consistent with its low performance in the original survey it was drawn from

(USDOE, 2018). With only five items on the TAL scale (compared to an average of nine items on the other scales used in the present study), the comparatively low reliability score was likely caused by a mismatch in the number of items and the conceptual breadth of the construct (Ryff & Keyes, 1995) and by research showing that scale reliability increases with the number of items (Wells & Wollack, 2003). Nimon, Zientek, and Henson (2012) demonstrate how low scale reliability scores can result in observed score correlations being less than their true score counterparts, which may partially explain the unexpected findings between TAL and ASE.

### **Conclusions for Research Questions Q2 and Q3**

A handful of empirical studies in a review of the literature revealed a positive relationship between the TAL domain of SC and student ESE and/or SSE (Cheung & Lai, 2013; Dunbar, Dingel, Dame, Winchip, & Petzold, 2018; Pool & Qualter, 2012). Researchers cited teacher encouragement and patient support of students through their mastery learning experiences, the use of cooperative learning strategies, and direct teaching of emotion management skills, as possible sources of SE that influenced higher student beliefs in their ESE and SSE.

While the present study showed results suggestive of a positive correlation between the TAL domain of SC and students' ESE,  $r_s(58) = .16$ ,  $p = .236$ , and SSE,  $r_s(58) = .20$ ,  $p = .135$ , the correlation was not significant, so the findings of the cited researchers were not supported. The lack of a relationship found between TAL, ESE, and SSE could be due to the small sample size ( $N = 60$ ) retained in the study, as explained in the previous conclusion, as it was insufficient for the significance level and power requirements established in the study design. Additionally, the TAL and SSE scales had

substantially lower reliability scores in comparison to the other scales on the survey instrument, which may have marginally resulted in measurement error being introduced into the subsequent correlational analyses, as was the case in the previous conclusion (Nimon, Zientek, & Henson, 2012) .

#### **Conclusions for Research Question Q4**

Several empirical studies have shown that ASE is positively associated with the SC factor of INT (Nelson & DeBacker, 2008; Pedditzi & Marcello, 2018; Schunk & DiBenedetto, 2016). Researchers found that an elevated sense of student ASE was related to the amount of respect afforded for students' diversity and individual differences, and the social support they received from students and staff. The researchers speculated that the two socially connected sources of ASE at work were vicarious experiences and social persuasion. Students experienced positive peer pressure to perform better as they observed their close peers having success with similar academic tasks, enhancing their sense of ASE.

While the association found between ASE and INT in the present study was positive, the correlation was not significant,  $r_s(58) = .29, p = .010$ , so the findings did not corroborate the cited research. This result was unexpected because nine of the 14 items on the INT scale directly addressed student-teacher relationships (e.g., "Adults at this school treat all students with respect"; "Teachers understand my problems"; "My teachers care about me").

A difference in the level of specificity of measurement between the INT domain of SC and ASE may have affected the degree of correlation. While the level of specificity in measurement should vary in relation to what the researcher is trying to

understand and/or predict (Marsh, Roche, Pajares, & Miller, 1997; Pajares & Miller, 1995; Walker, Greene, & Mansell, 2006), Bandura (1986, 2006) argued that what is most key is that the level of specificity be the same across measures. Pajares (1996) made the case that ASE is especially sensitive to considerations of measurement specificity and must be “consistent with and tailored to the domain of functioning and/or task under investigation” (p. 550), if explanatory or predictive power is required. This caveat for ASE may be even more relevant when considering students’ ASE in high school, as in the case in the present study. Bandura (2006) argued that measuring SE at a global level has poor explanatory power and limited predictive value because it is not realistic to expect a person to feel effective at everything they attempt. As subject matter becomes more specialized in high school, knowledge and skills may be less transferable between subjects and subsequently students’ beliefs in their ASE may become more variable and discipline dependent (Pajares, 1996).

As the scales for the SC/SE survey used for the present study were sourced from validated and reliable scales, they exhibited adequate construct validity, internal reliability, and good conceptual fit with the underlying constructs they were intended to measure. Items and scales for INT and ASE were pulled from two different surveys, however, with INT being defined by 14 items and ASE by seven items. While the scale scores for INT and ASE were normalized (i.e., converted to the same scale) and standardized (i.e., z-score normalized) to make comparisons between the two variables more valid, testing the scales for cross-loadings (Robinson, 2017) on the student sample for the present study would have helped to ensure that measurement specificity was not a contributing factor to the lack of a significant correlation between INT and ASE.

## Conclusions for Research Question Q5

No empirical studies could be found in a review of the academic literature that related the INT domain of SC and ESE. The present study found a significant positive correlation between INT and ESE with a medium effect size,  $r_s(58) = .37, p < .006$ .

Because the INT domain refers to how well the school environment fosters conditions for relationships to be cultivated at school, and students' emotional development is linked to social practice (Van Kleef, 2016), this connection was not surprising. A nurturing social environment at school could activate all four of Bandura's (1986) sources of SE in relation to the development of student beliefs in their emotional SE. Students who master socio-emotional challenges at school, who are encouraged by their peers and teachers for speaking up and navigating socio-emotional challenges successfully, who observe respected others in their social milieu experiencing similar successes, and who experience positive emotional reactions to their socio-emotional experiences at school, have a greater likelihood of feeling higher confidence in their ESE.

As suggested in the Findings section of the present chapter, a more precise conclusion can be drawn about the relationship between INT and ESE by examining the items from the survey scales for these factors. Over three-quarters of the items on the INT scale referred to interpersonal relationships between students and teachers/adult staff they encounter at school. All the items on the ESE scale concerned students' confidence in their ability to combat negative affect (e.g., confront unpleasant thoughts, nervousness, fright, worry, and low spirits). Students' perceptions of positive relationships with teachers and adult staff at school are thus significantly correlated with their confidence in their abilities to manage negative emotions.

### **Conclusions for Research Question Q6**

No empirical studies could be found in a review of the academic literature that related the INT domain of SC and SSE. The present study was suggestive of a positive relation between the two variables, but the correlation was not significant,  $r_s(58) = .28, p = .030$ . This result was surprising since the INT domain refers directly to the socializing function of the school environment and the interpersonal relationships formed between students, their peers, and school staff.

A possible explanation for the dearth of research on the connection between the interpersonal domain of SC and SE domains is the conflation of self-related constructs and terms such as self-concept, expectancy beliefs, self-perceptions of ability, and subjective competence, referred to by Morin (2017) and Pajares (1996). Research into these closely related constructs may reveal studies showing the missing connections between students' perceptions of INT and their sense of competence in their abilities to manage academic, emotional, and social tasks and challenges.

### **Conclusions for Research Question Q7**

Empirical studies have shown a positive association between ASE and INE, the amount of connectedness, engagement, and belonging students feel with/to their schools (Chang & Chien, 2015; McMahon, Parnes, Keys, & Viola, 2008; Roeser et al., 1996; Uwah, McMahon, & Furlow, 2008). The association found between ASE and INE in this study was positive, but the correlation was not significant,  $r_s(58) = .31, p = .016$ ; hence, the empirical findings were not supported in this study.

This unexpected finding may be due to the mediation/moderation of variables that were not accounted for in the present correlational study. The cited studies by Uwah,

McMahon, and Furlow (2008) and McMahon et al. (2009), for example, showed that factors such as direct invitations to participate in school programs and particulars of the classroom environment, respectively, mediated the effect that a sense of school belonging had on students' ASE.

### **Conclusions for Research Question Q8**

No empirical evidence was found in a review of the literature for the relationship between the SC domain of INE and ESE, how confident students feel about successfully managing their emotions. This study did not find significant correlations between INE and ESE either,  $r_s(58) = .28, p = .033$ ; hence the relationship remains inconclusive after the present study.

These findings were unexpected given that empirical links have been found between students' sense of connectedness, belonging, and engagement and secondary students' overall sense of SE (Korpershoek, Canrinus, Fokkens-Bruinsma, & de Boer, 2019) and a plethora of emotional factors such as emotional health (Arslan, 2018), psychosocial adjustment (Allen, Vella-Brodrick, & Waters, 2016), and emotional competence (Roehlkepartain et al., 2017). One possible reason for the paucity of research is that some researchers equate the construct of ESE with the construct of trait emotional intelligence (EQ) which predates it (e.g., Petrides & Furnham, 2001; Petrides, Pérez-González, & Furnham, 2007). As EQ has had more traction in the academic literature, researchers may have focused less on ESE, its newer correlate.

### **Conclusions for Research Question Q9**

Only two empirical studies were found that corroborated a positive relationship between the SC domain of INE and SSE among secondary level students (Kia-Keating &

Ellis, 2007). This study did not find significant correlations between INE and SSE,  $r_s(58) = .28, p = .032$ . These findings were unexpected because students' sense of school engagement, connectedness, and involvement is a function of their identification with curricular and extracurricular activities as well as the socialization and interpersonal relationships developed during those activities (Allen, Kern, Vella-Brodrick, Hattie, & Waters, 2018; Berg, Osher, Moroney, & Yoder, 2017; OECD, 2017).

A confluence of technical factors may help explain this anomaly. First, students' perceptions of INE yielded the lowest mean score of the three SC scales measured, indicating students felt less strongly about the sense of connectedness, engagement, and belonging fostered at school in comparison to how they felt about the environment for teaching and learning and for forming and sustaining personal relationships. Second, one quarter of the items on the INE scale referred to extracurricular offerings not available to a significant percentage of students due to the school's small size and out-of-district students' commute distances/times. Third, the SSE scale had a relatively low reliability score, and, as explained earlier, lower reliability scores can result in observed score correlations being lower than their true score counterparts (Nimon, Zientek, & Henson, 2012). Finally, the two constructs of INE and SSE may have been measured at different levels of specificity in the survey (INE was defined by 12 items and SSE by only seven items) which could have impacted the correlation between them, as explained in an earlier conclusion.

### **Implications for Theory and Practice**

As no empirical studies could be found describing the relationship between the interpersonal domain of SC and ESE, the present study provides groundbreaking



evidence that a positive and significant relationship exists. In the review of literature in Chapter II, student/teacher relationships, a subdomain of INT, was the only domain common to all six prevailing theories of SC. This finding confirms a theorized association between this widely adopted SC dimension and ESE, an influential student socio-emotional competency. It also implies that ESE may merit more serious attention in a field of inquiry that has been heavily dominated by research into ASE, the domain of SE found to be most directly tied to student achievement.

Bandura's TMRD posits that environmental factors such as SC, personal factors such as SE, and behavioral factors such as student achievement at school are strongly interconnected, like the three vertices of a triangle (Bandura, 1986). Students with a strong sense of SE who are surrounded by a supportive SC generally manifest desirable behaviors such as higher student achievement. The present study confirms Bandura's theorized association for the interpersonal domain of SC and emotional domain of SE within a high school student sample. Specifically, the finding implies that the level of success 10th- and 11th-grade students have with forming and maintaining interpersonal relationships at school, especially with the adults, is connected to their beliefs in their abilities to manage their emotions, especially negative affect. In six of the remaining eight cases probed in the research questions, results were suggestive of positive relationships between the domains of SC and SE but the lack of significance may imply that school climate alone does not account for high school students' sense of SE and that significant unidentified moderating/mediating variables may be at work.

The lack of significant correspondence between the domains of SC and SE could also imply that more research needs to go into precisely conceptualizing and

contextualizing these constructs; dimensionalizing them (i.e., dividing them into domains) and operationalizing them (i.e., coming up with indicators to measure them); and designing valid and reliable psychometric instruments to measure them.

### **Limitations of Study**

The present study is subject to four important limitations. Challenges such as low statistical power, violation of assumptions, and reliability of measures could affect the statistical conclusion validity of the results (García-Pérez, 2012). Such limitations constrain the inferences drawn from the data and consequently, the practical utility and generalizability of the study's findings.

#### **First Limitation**

The certainty of the present study's findings must be qualified for several reasons. First, the sample size ( $N = 60$ ) was inadequate for the significance and power levels set out in the study design. A minimum sample size of 85 was stipulated for a significance level of  $p < .05$ , a power of .80 ( $\beta = .20$ ), and a medium effect size, calculated using Cohen's (1992) criteria.

The use of a convenience sample for the study limited the generalizability of the results to the high school student population. Only students who returned their signed parental/guardian permission slips and personal consent forms took the survey. Because of the small sample size and convenience sample, a case could be made for single-source response bias in the results. The respondents may have been the "responsible" sophomores and juniors at the school, for example; those who took their documentation home, got it signed, and returned, and who took the time and effort to complete the survey.

The sampling issues cited may have had an impact on the associations or lack thereof found between the SC and SE variables. As such, the present study's findings and their applicability to the population of high school students at large must be qualified.

### **Second Limitation**

The lower internal consistency reliability—Cronbach's alphas—found for the domains of TAL and SSE on the SC/SE survey instrument could put in doubt the study results. The lower reliability for the TAL scale was due to the item “Teachers expect me to do my best all the time” which had the lowest inter-item correlation of the scale. Because the item contained two superlatives—“my best” and “all the time”—the researcher speculates that this item may have been perceived to be double-barreled by respondents. The low reliability for the SSE scale was due to the item “How well can you tell other young people that they are doing something you don't like.” Compared to the other items on the scale, this item had the lowest mean score and referred to a social action with a potentially high risk to the respondent.

How closely related scale items on the survey are is a function of how many items are in the scale and of the average inter-item correlation (Ritter, 2010). The TAL variable was calculated as the mean of a scale of only five items and the source scale it was taken from—the EDSCLS—had consistently low scores compared to the other SC scales as the instrument was being piloted (USDOE, 2018). The SSE scale had the lowest reliability score compared to ASE and ESE in several reliability studies (Minter & Pritzker, 2015; Muris, 2001; Muris, 2002; Suldo & Shaffer, 2007). With low reliability scores for TAL and SSE on the survey scales used in this study and the source scales

from which they were drawn, a correction for attenuation may have been in order but was not conducted. This adjustment, proposed by Spearman, could have helped correct for smaller (attenuated) correlations found between TAL and SSE due to measurement error in the scales (Salkind, 2010).

### **Third Limitation**

The research design and unforeseen events during the data capture event limited the reliability, validity, and robustness of the present study's results. Data on SC and SE were captured exclusively through a self-report format which can be subject to several response biases and psychometric challenges (Duckworth & Yeager, 2015; Podsakoff, MacKenzie, & Podsakoff, 2012). The data capture was administered on the final days of the Fall semester and factors such as final exams and the looming holiday season may have introduced additional response bias into the results. Finally, students had been requested to fill out several successive surveys for various purposes in the days and weeks prior to the data capture event for the present study. Students may have been experiencing survey fatigue as they took the SC/SE survey creating additional response bias.

The target high school was a small urban charter school only in its third year of operation, not representative of typical public high schools in the district. The lack of replication of the study in other more comprehensive high schools decreases the degree of external validity and reliability of the study's findings.

The decision to use a zero-order bivariate correlational analysis to examine the data limited the conclusions that could be drawn about the relationships between SC and SE domains. Spearman's rho correlation coefficients do not have predictive power and

so students' SE beliefs could not be forecast from their SC responses. For the purposes of designing interventions, the correlational analysis didn't reveal underlying causal mechanisms that might help educational practitioners understand the direction and magnitude of the effect the variables have over each other.

Further, the analysis did not address confounding variables that need to be controlled for or explore shared variance that might exist between SC and SE. These additional steps could have revealed more nuanced relationships between the variables and affected the robustness of the associations found. Although demographic data were captured in the survey, factors such as race, gender, and grade level were not controlled for, for example. Empirical research studies suggest group differences in perceptions of SC domains (Booth & Gerard, 2014; Gordon, 2018) and SE domains (Muris, 2002; Suldo & Shaffer, 2015; Valois & Zullig, 2013), but these factors were not accounted for in this simple correlational analysis.

### **Recommendations for School Practice**

This study found a medium level positive correlation between high school students' perceptions of the INT domain of SC and their beliefs in their ESE. As explained earlier, the effect was largely attributed to students' sense of their relationships with their teachers; high school students' who perceived high levels of teacher social support and respect for their diversity and individual differences had elevated beliefs in how well they perceived, used, understood, and managed emotional information, especially negative affect.

Directional effects between teacher-student relationships and ESE were not investigated in this study and could not be found in the academic literature. Although it

is not known whether INT or ESE is the driver of improvement of the other, students would be well served if school practitioners fostered conditions for the development of both domains.

Improved high school student-teacher relationships have been found to be associated with increased school completion rates (Croninger & Lee, 2001) and student engagement (Marks, 2000; Martin & Collie, 2018); academic growth (Gregory & Weinstein, 2004); higher positive academic emotions and lower negative academic emotions (Lei, Cui, & Chiu, 2017); help-seeking behaviors, especially when threats of bullying or violence were imminent (Eliot, Cornell, Gregory, & Fan, 2010); and less oppositional and antisocial behavior (Bru, Stephens, & Torsheim, 2002; Jessor et al., 2003) including bullying (Gregory et al., 2010). As cited in Chapter III, adolescents with elevated beliefs in their ESE experience lower anxiety (Mathews, Koehn, Abtahi, & Kerns, 2016); report better social relationships; are better able to ward off peer pressure for transgressive behaviors; cope more effectively with academic stress (Bandura et al., 2003); demonstrate better overall mental health (Muris, 2002); engage less in risky sexual behavior (Valois, Zullig, & Kammermann, 2013), suicide ideation (Valois, Zullig, & Hunter, 2015), and substance use (Zullig, Teoli, & Valois, 2014); and are more likely to engage in healthy behaviors such as moderate and vigorous physical activity, exercising, and playing sports (Valois, Umstattd, Zullig, & Paxton, 2008).

Educators can apply empirically tested strategies to enhance the interpersonal environment in which student ESE develops while working on developing student ESE directly. Since most of the variance in teacher-student relationships happens at the student level and not at the classroom level or school level (Martin, 2014), teachers must

make efforts with each student to establish personal rapport, show emotional warmth, and convey a sense of acceptance (Baker, Grant, & Morlock, 2008; Pianta et al., 2012).

Beyond that, effective strategies to improve high school teacher-student relationships include learner-centered practices (Weinberger & McCombs, 2010) such as creating spaces for student voice (Mitra, 2003); social perspective taking, in which students' thoughts, feelings, and motivations are discerned (Gehlbach, Brinkworth, & Harris, 2011); and a relational approach to discipline (Gregory & Ripski, 2008) such as restorative justice (Gregory, Clawson, Davis, & Gerewitz, 2016).

A systematic approach to enhance student ESE may seem daunting to high school practitioners initially. Most principals report inadequate teacher training in social-emotional learning strategies (DePaoli, Atwell, & Bridgeland, 2017), and a majority of teachers report feeling unprepared to teach social and emotional competencies (Ransford, Greenberg, Domitrovich, Small, & Jacobson, 2009) or to address student mental health issues (Kurtz, Lloyd, Harwin, & Blomstrom, 2019). While positive youth development programs that develop students' general SE have been tested and found to be effective (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 1998), methods for activating Bandura's (1986) four sources of SE—mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal—for the emotional domain of adolescent SE could not be found in the literature. An abundance of evidence suggests social and emotional learning skills can be taught at the secondary level, however (Duncan et al., 2017; Jones & Kahn, 2017; Mahoney, Durlak, & Weissberg, 2018; Taylor, Oberle, Durlak, & Weissberg, 2017). Regarding ESE specifically, a study by Pool and Qualter (2012) referred to in Chapter III showed that university students' directly taught emotion

management skills over a single semester had a higher sense of ESE when compared to the ESE of a control group.

### **Recommendations for Future Research**

From the data collection and analysis conducted, several additional lines of research are recommended in order to extend the knowledge base on the relationship between high school students' perceptions of SC and their SE beliefs. The recommendations include further research with the existing data set followed by research requiring additional data collection and more advanced statistical modeling.

#### **First Recommendation**

Researchers could examine the existing dataset to see if a subset of students who gave high marks on their SE scores gave low marks to SC domains. Conversely, the data might reveal a cadre of students who gave high marks to the SC domains but had relatively low SE scores. Such connections could justify a line of mixed methods research on moderating/mediating variables of SE and SC. Regarding SE, researchers could design and conduct quantitative studies with hypothesized moderating/mediating variables (e.g., Bandura's [1994] four sources of SE) decided upon a priori from research, coupled with a regression analysis to determine the influence of the mediators/moderators on SE when SC scores are low. Researchers could also conduct qualitative research through student interviews, focus groups, or think-aloud protocols, bringing to light a posteriori other personal factors that work in tandem with SE to keep students' confidence in their abilities high when their perceptions of nurturing environmental factors such as SC are low.



Additionally, reporting differences of the demographic subgroups such as gender or race/ethnicity that participated in the present study could be accounted for. Over 70% of the respondents in the study sample identified as Hispanic and 60% as male; controlling for the effects of group differences on the results could increase the utility and transferability of the results to other settings.

### **Second Recommendation**

Collecting new and complementary data would also enrich the conclusions that could be drawn from the present study. The study design could be replicated with a larger and more representative (randomly selected) high school student sample to strengthen the significance and power of the conclusions. The respondent data collected about SE and SC from the replication study could be used as a benchmark and the survey could be re-administered to an equivalent sample perhaps a year later in a pretest-posttest format. Researchers may want to ensure that the data capture events do not fall close to the end of the semester, as was the case with the present study, to avoid any response bias linked to the holiday season/final exams. The measures taken to collect a more robust dataset and to control for baseline levels of students' perceptions of SC and SE could strengthen the validity and reliability of the study's findings.

With a more robust dataset, researchers could also examine how students' perceptions of SC and SE beliefs compare based on their demographics such as age, gender, race/ethnicity, and SES. Group differences detected in students' response patterns to SC and SE variables could indicate structural deficiencies in providing support for all students feeling academically, emotionally and socially successful, regardless of their demographic characteristics.

### **Third Recommendation**

Due to constraints, the present study did not examine how SC is connected to other important dimensions of SE for high school students such as physical SE, spiritual SE, and self-regulatory SE (beliefs in one's capabilities to think and behave in ways that are systematically oriented toward learning goals). While ASE, ESE, and SSE represent a particularly balanced triad of SE domains for youth development (Berg, Osher, Same et al., 2017), research suggests that youth could benefit from developing a healthy sense of their physical capabilities (Annesi, 2006), their abilities to make ethical decisions (Oman et al., 2012), and their capacity for self-regulated learning (Boekaerts, Pintrich, & Zeidner, 2000). Future studies could investigate how SC affects these key domains of SE among the high school student population.

Additionally, the important SC domain of safety (Raphael, 2017), intentionally omitted in this study, could be included in a follow-up study. Perceptions of school safety may play an important role in students' sense of SE; according to Maslow's hierarchy of needs, safety underlies higher-order needs such as self-actualization (Maslow, 1943) and an unsafe SC might inhibit conditions for the development of higher-order noncognitive skills such as SE.

### **Fourth Recommendation**

Bhaskar (2008) urged critical realists to seek out causal relationships in order to recommend changes and transform the social world through practical action. Researchers approaching their research from this perspective could enlist more robust data analysis techniques such as multiple regression to determine if SC domains can predict SE and with what power. Possible options include an autoregressive research design, in which

observations about SC and SE variables from previous time steps are used as inputs to a regression equation to predict the values of the variables at a subsequent time step; a cross-lagged design, in which the directional influence the SC and SE variables have on each other over time are estimated (Wang & Degol, 2015); or backwards-elimination multiple regression, which begins with all the independent variables (e.g., SC domains) entered in the regression equation and then sequentially removes them one at a time to calculate their effects on the dependent variable (SE), with the variable accounting for the least variance selected each time for removal (Tabachnick & Fidell, 2014).

### **Fifth Recommendation**

Finally, Bandura's (1986) triadic model suggests complex relationships between SC and personal factors other than SE such as values, beliefs, goals, and expectations. Representing the connection between SC and SE in a simple zero-order bivariate correlation could grossly over-simplify this layered *mélange* of interacting influences. To analyze such relationships, researchers could perform factor analysis, or, combine correlation, multiple regression and factor analysis through structural equation modeling. Such sophisticated modeling and analysis can accommodate the analysis of latent constructs such as SC and SE through the examination of observable variables (e.g., TAL, INT, INE, ASE, ESE, SSE); and allows for conceptualized models relating the various exogeneous (independent), endogenous (dependent) variables, and any mediators to be tested and adjusted for a better fit with the data.

Bandura's TMRD also suggests that there are manifold environmental factors that may affect SE. Multilevel modeling techniques such as hierarchical linear modeling could account for how the effects of SC on SE may be conditioned by the fact that

students are nested in classrooms, which are nested in grade levels, which are, in turn, nested in schools.

### **Concluding Remarks**

As cited in the opening chapter, a large body of research shows a decrease in students' SE beliefs beginning in middle school and extending into high school (Eccles, Midgley, & Adler, 1984; Harter, 1992; Martin, 2009; Ryan & Deci, 2000; Wigfield & Eccles, 2000) and a decline in their perceptions of important factors of SC (Bear et al., 2016; Gallup, 2015; Hascher & Hagenauer, 2010; Klem & Connell, 2004; Lessne, Yanez, & Sinclair, 2018). High school students on the brink of assuming the roles and responsibilities of young adulthood and of losing the support systems provided by a healthy SC could be well served by having secure beliefs in their abilities to manage their forthcoming academic, emotional, and social challenges. An emerging understanding of what malleable, measurable, and meaningful factors of SC are positively associated with SE beliefs can help educational changemakers in making decisions about continuance and reform of SC improvement initiatives.

## **APPENDIX SECTION**

A. SURVEY INSTRUMENT .....	116
B. RAW DATA, QUALTRICS SURVEY OUTPUT .....	121
C. CAMPUS LEVEL PERMISSION TO CONDUCT STUDY .....	132
D. DISTRICT-LEVEL PERMISSION TO CONDUCT STUDY .....	133
E. IRB APPROVAL TO CONDUCT STUDY .....	135
F. IRB STUDENT INFORMED CONSENT FORM.....	136
G. IRB PARENTAL/GUARDIAN PERMISSION FORM.....	137
H. DISTRICT PARENTAL/GUARDIAN PERMISSION FORM .....	143

## APPENDIX A: SURVEY INSTRUMENT

**(Text appearing in parentheses does not appear in the survey and is included to understand what domain is being measured)**

### (DEMOGRAPHIC QUESTIONS)

1. Are you male or female? Mark one response.  
☐ Male      ☐ Female
2. How old are you? Mark one response.  
☐ 14      ☐ 18  
☐ 15      ☐ 19  
☐ 16      ☐ Other: \_\_\_\_\_  
☐ 17
3. What grade are you currently in at this school? Mark one response.  
☐ 9th grade    ☐ 10th grade    ☐ 11th grade    ☐ 12th grade
4. Are you of Hispanic or Latino origin? Mark one response.  
☐ Yes      ☐ No
5. What is your race? You may mark one or more races.  
☐ White      ☐ American Indian or Alaska Native  
☐ Black or African-American    ☐ Native Hawaiian or Pacific Islander  
☐ Asian

*Throughout the survey, "This school" means activities happening in school buildings, on school grounds, on school buses, and at places that hold school-sponsored events or activities. Unless otherwise specified, this refers to normal school hours or to times when school activities were in session.*

**How strongly do you agree or disagree with the following statements about this school? Mark One Response.**

**(INTERPERSONAL DOMAIN [INT] OF SC)**

	Strongly Agree	Agree	Disagree	Strongly Disagree
6. All students are treated the same, regardless of whether their parents are rich or poor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Boys and girls are treated equally well.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. This school provides instructional materials (e.g., textbooks, handouts) that reflect my cultural background, ethnicity, and identity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Adults working at this school treat all students respectfully.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. People of different cultural backgrounds, races, or ethnicities get along well at this school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Teachers understand my problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Teachers are available when I need to talk with them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. It is easy to talk with teachers at this school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. My teachers care about me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. My teachers make me feel good about myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Students respect one another.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Students like one another.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. If I am absent, there is a teacher or some other adult at school that will notice my absence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. At this school, there is a teacher or some other adult who students can go to if they need help because of sexual assault or dating violence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**(TEACHING AND LEARNING [TAL] DOMAIN OF SC)**

	Strongly Agree	Agree	Disagree	Strongly Disagree
20. My teachers praise me when I work hard in school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. My teachers give me individual attention when I need it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. My teachers often connect what I am learning to life outside the classroom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. The things I'm learning in school are important to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. My teachers expect me to do my best all the time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**(INSTITUTIONAL ENVIRONMENT [INE] DOMAIN OF SC)**

	Strongly Agree	Agree	Disagree	Strongly Disagree
25. I regularly attend school-sponsored events, such as school dances, sporting events, student performances, or other school activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. I regularly participate in extra-curricular activities offered through this school, such as, school clubs or organizations, musical groups, sports teams, student government, or any other extra-curricular activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. At this school, students have lots of chances to help decide things like class activities and rules.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. There are lots of chances for students at this school to get involved in sports, clubs, and other school activities outside of class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. I have lots of chances to be part of class discussions or activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. I feel like I belong.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Students at this school get along well with each other.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. At this school, students talk about the importance of understanding their own feelings and the feelings of others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



	Strongly Agree	Agree	Disagree	Strongly Disagree
33. At this school, students work on listening to others to understand what they are trying to say.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. I am happy to be at this school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. I feel like I am part of this school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. I feel socially accepted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**How well are you able to do each of the following? Mar One Response for each.**

**(ACADEMIC SELF EFFICACY [ASE])**

	1 Not at all	2	3	4	5 Very well
37. How well do you succeed in passing all school subjects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. How well do you succeed in finishing all your homework every day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. How well do you succeed in satisfying your parents with your schoolwork?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. How well can you study when there are other interesting things to do?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. How well do you succeed in passing a test?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. How well can you study a chapter for a test?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43. How well can you pay attention during every class?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**(EMOTIONAL SELF EFFICACY [ESE])**

	1 Not at all	2	3	4	5 Very well
44. How well do you succeed in holding back unpleasant thoughts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45. How well can you prevent yourself from becoming nervous?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46. How well do you succeed in cheering yourself up when an unpleasant event has happened?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	1 Not at all	2	3	4	5 Very well
47. How well do you succeed in becoming calm again when you are very scared?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48. How well can you control your feelings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49. How well do you succeed in not worrying about things that might happen?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50. How well can you give yourself a pep talk when you feel low?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**(SOCIAL SELF EFFICACY [SSE])**

	1 Not at all	2	3	4	5 Very well
51. How well can you express your opinions when other classmates disagree with you?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
52. How well can you tell a funny story to a group of young people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53. How well can you become friends with other young people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54. How well are you able to remain friends with other young people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
55. How well can you get along with your classmates while working together?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
56. How well can you have a chat with an unfamiliar person?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
57. How well can you tell other young people that they are doing something you don't like?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## APPENDIX B: RAW DATA, QUALTRICS SURVEY PLATFORM OUTPUT

### KEY:

Q5: Wh = White, Bl/AA = Black/African American, Ot = Other, AI/AN = American Indian/Alaskan Native, As/NH/PI = Asian/Native Hawaiian/Pacific Islander

Q\_5\_6 TEXT: Hi = Hispanic, Do, Du, Me = Dominican, Dutch, Mexican, Ph = Philipino, Am-Me = American-Mexican

Q6–Q36: SD = Strongly disagree, D = Disagree, A = Agree, SA = Strongly agree

Q37–Q57: NAA = Not at all, SLW = Slightly well, SW = Somewhat well, FW = Fairly well, VW = Very well

Respondent No.	Q1	Q2	Q3	Q4	Q5	Q5_6_TEXT	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18
	Are you male or female? Mark one response. - Selected Choice	How old are you? Mark one response. - Selected Choice	What grade are you currently in at this school? Mark one response	Are you of Hispanic (or Latino) origin? Mark one response.	What is your race? You may mark one or more races. * - Selected Choice	What is your race? You may mark one or more races. * - Other - Text	All students at this school are treated the same, regardless of whether their parents are rich or poor.	Boys and girls at this school are treated equally well.	This school provides instructional materials (ex: textbooks, handouts) that reflect my cultural background, ethnicity, and identity.	Adults working at this school treat all students respectfully.	People of different cultural backgrounds, races, or ethnicities get along well at this school	Teachers at this school understand my problems.	Teachers at this school are available when I need to talk with them.	It is easy to talk with teachers at this school.	My teachers at this school care about me.	My teachers at this school make me feel good about myself.	Students respect one another at this school.	Students like one another at this school.	If I am absent, there is a teacher or some other adult at this school that will notice my absence.
R1	M	16	11	Yes	Wh		SA	SA	A	SA	SA	D	A	A	SA	SA	A	SA	SA
R2	F	15	10	No	Wh		A	A	D	SA	SA	SA	SA	SA	SA	A	A	A	A
R3	F	15	10	No	Wh		SA	SA	A	SA	A	A	SA	SA	SA	SA	SA	A	A
R4	F	15	10	No	Bl/AA		SA	A	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
R5	M	17	11	Yes	Wh		SA	SA	A	SA	SA	SA	SA	SA	SA	SA	D	D	SA
R6	M	16	11	No	Wh		D	D	D	A	SA	D	A	A	A	A	D	A	A
R7	M	15	10	No	Wh		SA	SD	A	A	A	A	A	SA	SA	SA	A	A	SA
R8	M	15	10	Yes	Wh		A	A	A	A	SA	D	A	A	A	A	A	A	D
R9	M	16	10	Yes	Wh, AI/AN		SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	A	SA	SA
R10	F	16	10	Yes	Ot	Hi	A	A	D	A	A	A	D	D	A	D	A	D	A
R11	M	16	10	Yes	Wh		SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	A
R12	F	17	11	Yes	Wh		A	A	SA	SA	SA	SA	SA	SA	SA	SA	A	SA	SA
R13	M	15	10	Yes	Wh		SA	A	A	SA	A	D	A	A	A	A	A	A	A
R14	M	15	10	Yes	Wh		SA	SA	SA	SA	SA	A	A	SA	SA	A	A	A	A
R15	F	15	10	Yes	Wh		A	D	A	SA	SA	A	A	A	A	A	D	D	A
R16	F	17	11	No	Wh		A	A	A	A	A	A	A	A	A	A	A	A	A
R17	F	16	11	Yes	Wh		A	A	A	SA	SA	SA	SA	SA	A	SA	A	A	A
R18	M	15	10	Yes			D	D	D	D	SA	SD	SD	D	A	D	A	A	A
R19	F	16	10	Yes	Wh		A	D	D	A	D	D	A	A	A	A	A	D	D
R20	M	16	10	Yes			SA	SA	A	SA	SA	A	A	SA	SA	A	SA	A	SA
R21	M	16	11	Yes	Wh		A	A	A	A	A	A	A	A	A	A	D	D	D
R22	M	17	11	Yes	Wh/Ot		D	D	A	A	A	A	A	A	A	A	A	A	A
R23	M	15	10	Yes	Wh		SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	A	SA	SA
R24	F	18	11	Yes	Wh		A	A	SA	A	A	D	A	D	A	D	A	A	D
R25	F	15	10	No	Bl/AA		A	A	D	A	A	SA	A	SA	A	SA	A	A	A
R26	M	15	10	Yes	Wh		SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	A	A	SA
R27	F	15	10	Yes	Ot		A	A	A	A	A	A	A	A	A	A	D	A	A
R28	F	16	11	Yes	Wh		SA	A	D	A	SA	A	SA	SA	A	A	D	D	A
R29	M	16	10	Yes	Wh		A	A	D	SA	A	A	A	A	SA	A	A	A	A

Respondent No.	Q1	Q2	Q3	Q4	Q5	Q5_6_TEXT	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18
	Are you male or female? Mark one response. - Selected Choice	How old are you? Mark one response. - Selected Choice	What grade are you currently in at this school? Mark one response	Are you of Hispanic (or Latino) origin? Mark one response.	What is your race? You may mark one or more races.* - Selected Choice	What is your race? You may mark one or more races.* - Other - Text	All students at this school are treated the same, regardless of whether their parents are rich or poor.	Boys and girls at this school are treated equally well.	This school provides instructional materials (ex: textbooks, handouts) that reflect my cultural background, ethnicity, and identity.	Adults working at this school treat all students respectfully.	Teachers at this school are available when I need to talk with them.	It is easy to talk with teachers at this school.	My teachers at this school care about me.	My teachers at this school make me feel good about myself.	Students respect one another at this school.	Students like one another at this school.	If I am absent, there is a teacher or some other adult at this school that will notice my absence.		
R30	M	16	10	Yes	AI/AN		A	SA	SA	SA	SA	A	A	A	A	A	A	A	
R31	M	16	10	Yes	Wh		A	SA	A	SA	SA	SA	SA	SA	A	A	A	SA	
R32	M	17	11	Yes	As/NH/PI		A	SA	D	A	A	A	A	SA	A	A	A	SA	
R33	M	16	11	No	BI/AA		SA	SA	D	A	A	SA	SA	SA	SA	SA	A	SA	
R34	M	15	10	Yes	Wh		SA	A	SA	SA	A	SA	SA	SA	SA	A	A	A	
R35	F	17	11	Yes	Ot	Do, Du, Me	D	SD	A	SA	D	A	SA	SA	A	A	A	SD	A
R36	M	16	11	No	Wh/As		SA	SA	SD	SA	SA	A	A	A	A	A	SA	SA	SA
R37	M	15	10	Yes	Ot		SA	SA	A	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
R38	M	15	10	Yes	Wh		A	A	SA	SA	SA	SA	SA	SA	SA	SA	A	A	SA
R39	M	15	10	No	Ot	Ph	SA	SA	A	A	A	SA	SA	SA	A	A	A	A	SA
R40	M	17	11	Yes	Wh		A	A	A	A	A	SA	A	A	A	A	A	A	A
R41	M	15	10	Yes	Wh		SA	SA	A	SA	SA	A	A	SA	A	A	A	A	A
R42	M	15	10	Yes	Wh		SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
R43	M	16	10	Yes	Wh		D	SA	D	SA	SA	A	SA	A	A	SA	A	A	D
R44	M	15	10	Yes	Wh/Ot	Hi	SA	A	A	A	SA	A	A	A	A	SA	A	A	A
R45	M	15	10	No	Wh		A	A	A	SA	A	A	D	A	A	A	A	A	A
R46	M	17	11	Yes	Wh, BI/AA, AI/AN, As/NH/PI		D	D	SA	A	A	A	A	A	A	A	A	A	A
R47	F	15	10	Yes	NH/PI		A	A	A	SA	A	A	SA	A	SA	SA	SA	A	SA
R48	F	17	11	Yes	Wh		A	A	A	A	A	A	A	A	A	A	A	A	A
R49	M	15	10	Yes	Wh		A	A	SA	A	SA	SA	SA	SA	SA	SA	A	A	D
R50	M	15	10	Yes	Ot	Am-Me	SA	SA	D	SA	A	SA	A	SA	SA	A	A	A	SA
R51	M	16	11	Yes	Wh		A	A	A	A	SA	A	SA	SA	A	A	D	A	A
R52	F	15	10	Yes	Wh		A	A	A	A	A	A	A	A	A	A	A	A	A
R53	M	16	11	Yes	Ot		A	A	A	SA	A	D	A	SA	A	A	A	A	A
R54	M	15	10	No	Wh		A	SA	A	SA	SA	A	SA	SA	SA	SA	SA	SA	A
R55	F	16	11	Yes	Wh		A	A	A	A	SA	A	A	A	A	A	A	A	A
R56	M	15	10	No	Wh		A	A	A	A	A	D	A	A	A	A	A	A	A

Respondent No.	Q1	Q2	Q3	Q4	Q5	Q5_6_TEXT	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18
	Are you male or female? Mark one response. - Selected Choice	How old are you? Mark one response. - Selected Choice	What grade are you currently in at this school? Mark one response.	Are you of Hispanic (or Latino) origin? Mark one response.	What is your race? You may mark one or more races.* - Selected Choice	What is your race? You may mark one or more races.* - Other - Text	All students at this school are treated the same, regardless of whether their parents are rich or poor.	Boys and girls at this school are treated equally well.	This school provides instructional materials (ex: textbooks, handouts) that reflect my cultural background, ethnicity, and identity.	Adults working at this school treat all students respectfully.	People of different cultural backgrounds, races, or ethnicities get along well at this school.	Teachers at this school understand my problems.	Teachers at this school are available when I need to talk with them.	It is easy to talk with teachers at this school.	My teachers at this school care about me.	My teachers at this school make me feel good about myself.	Students respect one another at this school.	Students like one another at this school.	If I am absent, there is a teacher or some other adult at this school that will notice my absence.
R57	F	16	11	Yes	Wh		SA	SA	A	SA	A	A	SA	SA	SA	SA	A	A	SA
R58	F	15	10	Yes	Wh		SA	SA	A	A	SA	A	D	A	A	A	A	A	A
R59	F	16	10	Yes	Ot		A	A	A	SA	A	A	A	A	A	A	A	D	A
R60	M	15	10	Yes	As/NH/PI		A	A	D	A	A	A	A	A	A	SA	SA	A	A
R61	F	15	10	Yes	Wh		A	A	D	SA	A	A	A	A	A	A	SA	A	A
R62	M	15	10	Yes	Wh		SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	A	A	A
R63	M	18	11	Yes	Wh		A	A	A	D	A	SD	D	D	A	SA	D	D	D

Respondent No.	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34
	At this school, there is a teacher or some other adult who students can go to if they need help because of sexual assault or dating violence.	My teachers at this school praise me when I work hard in school.	My teachers at this school give me individual attention when I need it.	My teachers at this school often connect what I am learning to life outside the classroom.	The things I'm learning at this school are important to me.	My teachers at this school expect me to do my best all the time.	I regularly attend school-sponsored events, such as school dances, sporting events, student performances, or other school activities offered through this school.	I regularly participate in extra-curricular activities offered through this school, such as, school clubs or organizations, musical groups, sports teams, student government, or any other extra-curricular activities.	At this school, students have lots of chances to help decide things like class activities and rules.	There are lots of chances for students at this school to get involved in sports, clubs, and other school activities outside of class.	I have lots of chances to be part of class discussions or activities at this school.	I feel like I belong at this school.	Students at this school get along well with each other.	At this school, students talk about the importance of understanding their own feelings and the feelings of others.	At this school, students work on listening to others to understand what they are trying to say.	I am happy to be at this school.
R1	SA	SA	SA	SA	A	SA	SD	SD	A	A	SA	A	SA	A	A	SA
R2	A	SA	A	A	A	A	A	SA	SA	SA	A	A	A	A	D	A
R3	A	SA	A	SA	SA	A	A	A	A	SA	A	A	A	A	A	A
R4	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
R5	SA	A	SA	A	SA	SA	D	A	SA	D	SA	SA	D	SA	A	SA
R6	A	D	D	A	SA	SD	A	A	A	SA	SA	A	A	SD	A	SA
R7	A	SA	SA	SA	A	SA	SD	SA	A	A	A	A	A	A	A	A
R8	A	D	A	D	A	D	D	A	D	SA	D	A	A	D	A	A
R9	A	A	SA	SA	SA	SA	SD	SD	A	A	SA	A	SA	SA	SA	SA
R10	D	A	A	A	A	A	D	A	A	A	A	D	A	A	A	A
R11	SA	SA	SA	A	SA	D	A	SA	SA	SA	SA	SA	SA	SA	SA	SA
R12	SA	SA	SA	SA	A	SA	SA	SA	A	A	A	A	SA	SA	SA	SA
R13	A	D	A	D	A	A	A	A	D	A	A	A	A	D	A	A
R14	SA	SA	SA	A	SA	SA	D	SA	SA	A	SA	SA	SA	SA	A	SA
R15	A	A	A	A	A	A	A	D	A	A	A	A	D	A	A	A
R16	A	A	A	D	A	A	A	A	A	A	A	SA	A	A	A	SA
R17	A	A	A	A	SA	SA	SA	SA	A	A	SA	SA	A	D	D	SA
R18	SD	D	D	D	A	A	D	D	D	A	A	D	A	D	D	D
R19	D	D	D	A	A	SA	D	A	D	D	A	A	D	D	SD	A
R20	SA	A	A	D	SA	SA	A	A	SA	SA	SA	SA	SA	A	SA	SA
R21	A	A	A	A	SD	A	SD	D	D	A	A	SD	A	D	D	SD
R22	A	A	A	A	A	A	D	A	A	A	A	A	A	D	D	D
R23	SA	SA	SA	A	SA	A	D	D	SA	SA	SA	SA	A	SA	A	SA
R24	A	A	A	A	A	A	D	A	A	A	A	A	A	A	A	A
R25	SA	SA	SA	A	A	A	A	A	A	A	SA	SA	A	A	A	SA
R26	SA	SA	SA	SA	SA	SA	A	SA	SA	SA	SA	SA	A	SA	SA	SA
R27	SA	A	A	A	SA	A	SA	SA	A	A	A	SA	A	A	A	SA
R28	A	A	SA	SA	A	SA	SD	A	SA	D	A	A	A	SD	D	A
R29	A	SA	A	A	SA	A	D	A	A	A	A	A	A	A	A	SA

Respondent No.	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34
	At this school, there is a teacher or some other adult who students can go to if they need help because of sexual assault or dating violence.	My teachers at this school praise me when I work hard in school.	My teachers at this school give me individual attention when I need it.	My teachers at this school often connect what I am learning to life outside the classroom.	The things I'm learning at this school are important to me.	My teachers at this school expect me to do my best all the time.	I regularly attend school-sponsored events, such as school dances, sporting events, student performances, or other school activities offered through this school.	I regularly participate in extra-curricular activities offered through this school, such as, school clubs or organizations, musical groups, sports teams, student government, or any other extra-curricular activities.	At this school, students have lots of chances to help decide things like class activities and rules.	There are lots of chances for students at this school to get involved in sports, clubs, and other school activities outside of class.	I have lots of chances to be part of class discussions or activities at this school.	I feel like I belong at this school.	Students at this school get along well with each other.	At this school, students talk about the importance of understanding their own feelings and the feelings of others.	At this school, students work on listening to others to understand what they are trying to say.	I am happy to be at this school.
R30	A	A	A	A	A	A	A	SA	A	A	A	A	A	A	A	A
R31	A	A	SA	A	SA	SA	D	A	A	A	A	SA	SA	A	A	SA
R32		A	A	A	SA	SA	A	A	A	SA	SA	SA	A	D	D	SA
R33	SA	SA	SA	SA	SA	SA	A	SA	SA	SA	SA	SA	A	A	D	SA
R34	SA	A	A	SA	A	SA	A	SA	A	SA	A	A	A	A	SA	SA
R35	SA	D	SA	SA	D	A	SA	SA	SA	SA	A	SA	A	D	SD	A
R36	SA	A	A	A	SA	SA	A	SA	SA	SA	SA	SA	SA	SA	SA	SA
R37	SA	SA	SA	A	SA	SA	A	SA	SA	SA	SA	SA	SA	A	A	SA
R38	SA	SA	A	SA	SA	D		A	SA	SA	A	SA	SA	A	SA	SA
R39	A	SA	A	A	A	SA	A	A	SA	SA	SA	SA	SA	A	A	A
R40	A	D	A		A	SA	D	A	A	A	A	A	A	A	A	A
R41		A	A	A	A	SA	D	D	A	A	A	A	A	A	A	SA
R42	SA	SA	SA	SA	SA	SA	SA	SA	A	SA	SA	SA	SA	SA	SA	SA
R43	A	D	A	SA	A	D	SD	SD	A	A	SA	A	A	D	A	D
R44	A	A	D	D	A	A	D	A	A	A	A	SA	A	A	A	SA
R45	A	A	A	A	SA	SA	SD	SA	SA	SA	SA	A	A	D	A	A
R46	A	A	A	A	A	A	A	D	A	A	A	A	A	A	A	A
R47	A	SA	SA	SA	A	A	A	A	A	A	A	A	A	A	A	A
R48	A	A	A	A	A	A	A	A	A	A	A	A	A	D	A	A
R49	A	D	A	A	A	A	D	D	A	A	A	SA	A	A	A	SA
R50	A	SA	D	A	A	SA	D	A	SA	SA	A	A	A	SA	SA	A
R51	A	A	A	A	A	A	D	D	D	D	A	A	A	D	A	A
R52	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
R53	SA	SA	A	SA	A	SA	A	SA	D	A	A	A	A	A	A	SA
R54	SA	A	SA	SA	SA	A	D	SA	SA	SA	SA	SA	SA	A	A	SA
R55	A	A	A	A	SA	A	A	D	A	A	A	A	A	A	A	A
R56	A	A	A	A	A	D	SD	SD	A	A	A	A	A	D	D	A



Respondent No.	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34
	At this school, there is a teacher or some other adult who students can go to if they need help because of sexual assault or dating violence.	My teachers at this school praise me when I work hard in school.	My teachers at this school give me individual attention when I need it.	My teachers at this school often connect what I am learning to life outside the classroom.	The things I'm learning at this school are important to me.	My teachers at this school expect me to do my best all the time.	I regularly attend school-sponsored events, such as school dances, sporting events, student performances, or other school activities offered through this school.	I regularly participate in extra-curricular activities offered through this school, such as, school clubs or sports teams, student government, organizations, musical groups, or any other extra-curricular activities.	At this school, students have lots of chances to help decide things like class activities and rules.	There are lots of chances for students at this school to get involved in sports, clubs, and other school activities outside of class.	I have lots of chances to be part of class discussions or activities at this school.	I feel like I belong at this school.	Students at this school get along well with each other.	At this school, students talk about the importance of understanding their own feelings and the feelings of others.	At this school, students work on listening to others to understand what they are trying to say.	I am happy to be at this school.
R57	SA	SA	A	A	A	SA	A	SA	A	SA	SA	SA	A	SA	SA	SA
R58	D	D	A	A	A	SA	A	SA	D	A	D	A	SA	A	D	SA
R59	A	A	A	A	A	SA	SA	SA	A	A	SA	A	A	A	A	A
R60	SA	SD	D	SD	A	SA	SD	D	A	A	A	A	A	A	D	SA
R61	A	A	D	A	A	SA	A	A	A	SA	A	A	SA	A	A	A
R62	SA	SA	SA	A	SA	SA	D	D	SA	SA	SA	SA	SA	SA	SA	SA
R63	SA	A	A	A	A	A	A	D	A	A	A	SD	D	A	A	A

Respondent No.	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
R1	A	A	SA	SW	SW	SLW	SW	FW	FW	FW	FW	FW	FW	FW	SW	SLW	FW	SLW	SW	SLW
R2	A	A	FW	FW	FW	SW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW
R3	A	A	SLW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	NAA	FW	FW
R4	SA	SA	VW	VW	VW	VW	VW	FW	FW	VW	NAA	FW	FW	FW	VW	VW	FW	VW	VW	VW
R5	SA	SA	FW	FW	FW	FW	FW	FW	VW	VW	SW	SLW	SLW	FW	SW	FW	VW	FW	VW	VW
R6	D	A	VW	VW	VW	VW	VW	VW	VW	SLW	NAA	SLW	SLW	FW	SW	FW	FW	SLW	FW	SLW
R7	A	A	VW	FW	VW	VW	VW	FW	FW	VW	FW	FW	FW	FW	FW	FW	VW	FW	FW	FW
R8	A	A	VW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW
R9	SA	SA	FW	FW	FW	FW	FW	FW	VW	NAA	NAA	SLW	SLW	NAA	NAA	SW	SW	FW	VW	VW
R10	D	A	SW	FW	FW	FW	FW	FW	FW	FW	FW	FW	NAA	FW	FW	FW	FW	FW	FW	FW
R11	SA	SA	VW	VW	VW	VW	VW	VW	VW	VW	SW	FW	FW	FW	FW	FW	FW	FW	VW	VW
R12	SA	SA	FW	FW	FW	FW	FW	FW	FW	VW	SW	FW	FW	VW	FW	FW	FW	FW	FW	FW
R13	A	A	SW	FW	FW	FW	FW	FW	FW	VW	SLW	NAA	FW	VW	NAA	SLW	FW	FW	FW	FW
R14	A	SA	FW	FW	FW	FW	FW	FW	VW	SW	FW	FW	FW	FW	FW	FW	FW	VW	FW	FW
R15	A	A	FW	FW	FW	FW	FW	FW	FW	FW	NAA	NAA	NAA	FW	NAA	NAA	FW	VW	FW	FW
R16	SA	SA	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	VW	FW	FW	FW	FW	FW	FW
R17	SA	SA	FW	VW	VW	FW	FW	VW	VW	VW	FW	VW	VW	VW	VW	VW	NAA	FW	FW	FW
R18	D	D	SW	FW	FW	NAA	FW	FW	FW	FW	FW	NAA	FW	FW	FW	NAA	VW	VW	VW	VW
R19	A	D	SW	FW	FW	NAA	FW	FW	FW	FW	NAA	NAA	FW	FW	NAA	NAA	NAA	FW	FW	FW
R20	SA	SA	FW	FW	FW	FW	FW	FW	FW	VW	FW	FW	FW	FW	VW	FW	FW	FW	FW	FW
R21	SD	A	NAA	NAA	NAA	NAA	FW	FW	FW	FW	FW	FW	FW	FW	VW	FW	VW	FW	FW	FW
R22	D	A	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW
R23	SA	SA	FW	FW	FW	FW	FW	FW	FW	VW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW
R24	A	A	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	NAA	FW	FW	FW	FW
R25	SA	A	VW	VW	VW	VW	VW	FW	VW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW
R26	SA	SA	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW
R27	A	SA	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW
R28	A	SA	VW	FW	FW	VW	FW	FW	VW	VW	FW	NAA	FW	FW	NAA	NAA	FW	FW	VW	VW
R29	A	A	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW

Respondent No.	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
R30	A	A	FW	FW	SW	FW	SW	SW	FW	FW	SW	FW	FW	VW	FW	FW	FW	SW	FW	FW
R31	SA	SA	FW	SW	VW	FW	FW	FW	FW	FW	SW	SLW	FW	VW	SW	SLW	SW	SW	SW	FW
R32	SA	SA	VW	VW	VW	SW	VW	FW	VW	VW	VW	VW	VW	VW	VW	VW	VW	FW	FW	VW
R33	SA	SA	FW	SW	VW	FW	FW	FW	FW	FW	FW	VW	FW	VW	FW	VW	SW	FW	SLW	VW
R34	SA	A	FW	FW	VW	VW	FW	VW	FW	VW	FW	FW	FW	VW	VW	VW	FW	FW	FW	VW
R35	A	SD	VW	SW	NAA	FW	SLW	SW	FW	VW	NAA	VW	FW	FW	NAA	FW	VW	NAA	VW	SW
R36	SA	SA	SW	SLW	NAA	NAA	SW	NAA	SLW	SLW	FW	SW	VW	SLW	SLW	SLW	FW	VW	VW	VW
R37	SA	SA	SW	SLW	SW	SLW	SW	SW	SW	SW	SLW	SLW	FW	SW	SLW	NAA	SLW	SLW	SLW	SW
R38	SA	SA	FW	SW	VW	SW	FW	FW	VW	VW	VW	SLW	VW	VW	VW	NAA	SW	VW	VW	FW
R39	SA	SA	FW	FW	VW	SW	FW	SW	FW	VW	FW	FW	FW	FW	VW	SW	FW	FW	FW	VW
R40	SA	SA	FW	FW	FW	FW	FW	SW	FW	FW	FW	FW	FW	FW	SW	SW	FW	FW	FW	FW
R41	A	A	FW	SLW	SW	SLW	VW	SLW	FW	VW	NAA	NAA	SLW	VW	NAA	NAA	SLW	SLW	SLW	SW
R42	SA	SA	VW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	SW	FW	FW	FW	VW
R43	A	A	VW	FW	VW	SW	FW	SW	VW	VW	FW	VW	VW	VW	VW	FW	FW	FW	FW	FW
R44	SA	SA	VW	FW	FW	FW	VW	SW	FW	SW	SLW	FW	SW	FW	SW	SW	SW	FW	FW	FW
R45	A	D	FW	FW	FW	SW	VW	FW	FW	SLW	SW	NAA	FW	SW	SLW	SLW	FW	SW	SW	SW
R46	A	A	SW	SW	SW	SLW	SW	SW	SW	SW	SW	SW	SW	FW	SW	SW	SW	SLW	SW	FW
R47	A	A	FW	FW	FW	FW	FW	FW	SW	VW	SW	SLW	SW	SW	FW	FW	FW	FW	FW	FW
R48	A	A	VW	VW	SW	FW	FW	FW	FW	SW	FW	SW	FW	FW	SW	SW	FW	FW	SW	FW
R49	SA	A	FW	SLW	VW	SW	FW	FW	FW	SW	FW	VW	FW	VW	SW	FW	FW	SW	FW	FW
R50	A	A	FW	SW	VW	FW	FW	FW	VW	FW	FW	SW	FW	VW	SLW	SW	FW	FW	FW	SW
R51	A	A	SW	SW	SW	SW	SW	FW	FW	FW	FW	FW	FW	VW	VW	FW	SW	SW	FW	FW
R52	A	A	SW	SW	SLW	SW	FW	NAA	SW	SW	SLW	FW	SLW	FW	SLW	SLW	FW	FW	FW	SW
R53	SA	A	FW	SW	FW	SLW	FW	SW	VW	NAA	FW	FW	FW	FW	SW	FW	SLW	SW	SW	FW
R54	SA	SA	FW	FW	FW	SW	VW	SW	FW	VW	SW	FW	SW	VW	SW	SW	SW	FW	FW	FW
R55	A	D	FW	SW	SLW	FW	FW	FW	VW	SLW	SW	SLW	SW	SLW	SLW	SW	SW	FW	FW	FW
R56	A	A	SLW	SLW	SLW	NAA	SW	NAA	SLW	NAA	NAA	FW	FW	NAA	VW	VW	VW	SW	SW	SW

Respondent No.	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
R57	I feel like I am part of this school.	I feel socially accepted at this school.	How well do you succeed in all school subjects?	How well do you succeed in finishing all your homework every day?	How well do you succeed in satisfying your parents/guardians with your schoolwork?	How well can you study when there are other interesting things to do?	How well do you succeed in passing a test?	How well can you study a chapter/unit for a test?	How well can you pay attention during every class?	How well can you succeed in holding back unpleasant thoughts?	How well can you prevent yourself from becoming nervous?	How well do you succeed in cheering yourself up when an unpleasant event has happened?	How well do you succeed in becoming calm again when you are very scared?	How well can you control your feelings?	How well do you succeed in not worrying about things that might happen?	How well can you give yourself a pep talk when you feel low?	How well can you express your opinions when other classmates disagree with you?	How well can you tell a funny story to a group of young people?	How well can you become friends with other young people?	How well are you able to remain friends with other young people?
R58	A	A	FW	SW	SW	SW	VW	FW	FW	SW	NAA	SW	SW	FW	NAA	SLW	FW	VW	SLW	FW
R59	A	A	VW	FW	FW	SW	FW	FW	FW	SW	NAA	FW	SLW	SLW	SLW	NAA	SW	SLW	SW	FW
R60	A	SA	FW	FW	FW	SW	SW	SLW	FW	VW	SW	FW	FW	VW	VW	SW	SW	FW	FW	FW
R61	A	A	VW	FW	FW	FW	VW	FW	FW	FW	SW	SLW	FW	SLW	SLW	SLW	FW	FW	FW	FW
R62	SA	SA	SLW	NAA	FW	NAA	FW	SW	SW	VW	SW	VW	FW	VW	NAA	SLW	VW	VW	VW	VW
R63	SD	D	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	FW	FW

Respondent No.	Q55 How well can you get along with your classmates while working together?	Q56 How well can you have a chat with an unfamiliar person?	Q57 How well can you tell other young people that they are doing something you don't like?
R57	FW	VW	SLW
R58	SW	NAA	NAA
R59	FW	SW	SLW
R60	FW	SLW	SLW
R61	FW	FW	SW
R62	VW	SW	FW
R63	VW	SW	SW

Respondent No.	Q55 How well can you get along with your classmates while working together?	Q56 How well can you have a chat with an unfamiliar person?	Q57 How well can you tell other young people that they are doing something you don't like?
R30	FW	FW	FW
R31	FW	SW	FW
R32	VW	VW	VW
R33	FW	FW	SLW
R34	FW	VW	FW
R35	SLW	VW	VW
R36	VW	VW	VW
R37	SW	SLW	SLW
R38	VW	VW	FW
R39	VW	SW	FW
R40	FW	SW	SW
R41	FW	SLW	NAA
R42	VW	FW	SW
R43	FW	SW	SLW
R44	FW	SW	FW
R45	SLW	SLW	FW
R46	FW	SW	FW
R47	VW	FW	FW
R48	FW	SW	FW
R49	FW	SW	SW
R50	FW	VW	VW
R51	FW	FW	FW
R52	SW	SW	FW
R53	FW	FW	SLW
R54	FW	SW	SLW
R55	FW	SLW	VW
R56	SW	SLW	NAA

Respondent No.	Q55 How well can you get along with your classmates while working together?	Q56 How well can you have a chat with an unfamiliar person?	Q57 How well can you tell other young people that they are doing something you don't like?
R1	SW	SLW	NAA
R2	FW	FW	SLW
R3	FW	SLW	SW
R4	VW	FW	VW
R5	VW	FW	SW
R6	FW	VW	SW
R7	FW	FW	FW
R8	FW	FW	SW
R9	VW	SW	SLW
R10	FW	SW	SW
R11	FW	FW	FW
R12	VW	FW	FW
R13	VW	SW	SLW
R14	VW	FW	SLW
R15	FW	SW	SW
R16	FW	FW	SW
R17	VW	SLW	FW
R18	VW	VW	VW
R19	SW	SLW	VW
R20	VW	SLW	SW
R21	SW	SLW	VW
R22	FW	SW	SLW
R23	VW	SW	FW
R24	VW	SW	NAA
R25	SW	FW	FW
R26	FW	FW	FW
R27	VW	NAA	SW
R28	VW	SW	SLW
R29	SW	SW	FW



## APPENDIX C: CAMPUS LEVEL PERMISSION TO CONDUCT STUDY



July 8, 2019

To Whom It May Concern:

This note is to verify that Russell Krummell's data collection for this Fall Semester 2019 in relation to his doctoral dissertation study CORRELATES OF PATHWAYS BETWEEN SCHOOL CLIMATE AND SELF-EFFICACY: A STUDY OF TENTH AND ELEVENTH GRADERS IN A PUBLIC SCHOOL has been approved. Once he has complied with district requirements for conducting research in the school district, I am aware that he will be surveying students at CAST TECH High School anonymously using an online survey platform during school hours. I have reviewed and authorized the instrument he will be using.

Please contact me if you need additional information at [malcala1@saisd.net](mailto:malcala1@saisd.net) or 210-554-2700.

Sincerely,

Melissa Alcalá, Ed.D.  
Principal

REAL DREAMS. REAL FUTURES.

## APPENDIX D: DISTRICT-LEVEL PERMISSION TO CONDUCT STUDY

1/20/2020

Gmail - SAISD Survey Request Approved



Russell Krummell <rkrummell@gmail.com>

### SAISD Survey Request Approved

1 message

SAISD ICBR <noreply@gemailserver.com>  
Reply-To: SAISD ICBR <dgarza@saisd.net>  
To: rkrummell@gmail.com

Thu, Nov 21, 2019 at 12:30 PM



### San Antonio Independent School District

1700 Tampico Street • San Antonio, TX 78207 • (210) 554-2460 • [www.saisd.net](http://www.saisd.net)

*Accountability, Research, Evaluation and Testing*

## Notice of Approval

To: Russell Krummell

From: San Antonio Independent School District  
Accountability, Research, Evaluation and Testing  
Institutional and Community Based Research

Date: 11/21/2019

Re: Perceptions of School Climate and Beliefs about Self-Efficacy

Research Request Status: Approved

Survey Request Status: Approved

Expiration Date: August 31, 2020

The above referenced proposal has been approved as submitted through the school year 2019-2020. Please provide a copy of this approval notice with all communications regarding this request.

Please be advised of the following:

- Participation in this research is voluntary and dependent upon campus principal approval and, where applicable, parent approval.
- Student surveys must be approved by the Parent Review Committee.
- A waiver and background check are needed for each non-employee researcher that will be on campus. The online waiver can be accessed [HERE](#).
- Changes to the study focus, sampling, or data collection methodology after your research request has been approved must be submitted for review by the Research Request Review Committee.

Please adhere to the guidelines established on the Research Agreement you submitted with your request. The guidelines can be accessed [HERE](#).

<https://mail.google.com/mail/u/0/?ik=9167a181d8&view=pt&search=all&permthid=thread-f%3A1650837222161186443&simpl=msg-f%3A16508372221...> 1/6

Your point of contact with the District will be Emily Beiser. If you have any questions they can be reached at [ebieser1@saisd.net](mailto:ebieser1@saisd.net).

We wish you success in this study and look forward to receiving the final study report.

cc: Theresa Urrabazo, Executive Director, Research, Evaluation, Accountability and Testing;  
Research Review Committee

BOARD OF TRUSTEES			
Patti Radle, President	Debra Guerrero, Secretary	Steve Lecholop, Trustee	Alicia Perry, Trustee
Arthur V. Valdez, Vice President	Ed Garza, Trustee	Christina Martinez, Trustee	Pedro Martinez, Superintendent

It is the policy of San Antonio ISD not to discriminate on the basis of race, color, religion, national origin, age, sex, gender identity, gender expression, sexual orientation or disability in its vocational programs, services or activities as required by Title VI of the Civil Rights Act of 1964, as amended; Title IX of the Education Amendments of 1972; Section 504 of the Rehabilitation Act of 1973, as amended, and SAISD's board policies DIA, FFH, and FFI.

**#DistributeSection, RecipientData#:**  
**#DistributeSection, TimeFinished#:** 2019-11-21 12:30:50 CST  
**IP:** 192.82.51.103  
**ResponseID:** R\_1NIHUh5fal6rb6C  
**#DistributeSection, ResultsLink#:** #DistributeSection, DefaultLinkText#  
**#DistributeSection, ResultsURL#:** [https://saisd.co1.qualtrics.com/CP/Report.php?SID=SV\\_3ltoIAD9zVI7TNP&R=R\\_1NIHUh5fal6rb6C](https://saisd.co1.qualtrics.com/CP/Report.php?SID=SV_3ltoIAD9zVI7TNP&R=R_1NIHUh5fal6rb6C)

**#DistributeSection, ResponseSummary#:**

Research Request Status  
Approved

Research Request Decision Date  
09/25/2019

Survey Request Status  
Approved

Survey Request Decision Date  
11/15/2019

Approved through the year of:  
2019-2020

Date Research Decision Letter Mailed:  
09/25/2019

Date Survey Decision Letter Mailed:  
11/21/2019

SAISD Point of Contact First and Last Name  
Emily Beiser

SAISD Point of Contact Email Address  
[ebieser1@saisd.net](mailto:ebieser1@saisd.net)

Has this research/survey been completed?  
No

<https://mail.google.com/mail/u/0/?ik=9167a181d8&view=pt&search=all&permthid=thread-f%3A1650837222161186443&simpl=msg-f%3A16508372221...> 2/6



## APPENDIX E: IRB APPROVAL TO CONDUCT STUDY



*The rising STAR of Texas*

In future correspondence please refer to 6669

September 4, 2019

Russell Krummell  
Texas State University  
601 University Dr.  
San Marcos, TX 78666

Dear Russell:

Your application titled, "Correlates of Pathways Between School Climate and Self-Efficacy: A Study of Tenth and Eleventh Graders in a Public School" was reviewed by the Texas State University IRB and approved. It was determined there are: (1) research procedures consistent with a sound research design and they did not expose the subjects to unnecessary risk. (2) benefits to subjects are considered along with the importance of the topic and that outcomes are reasonable; (3) selection of subjects are equitable; and (4) the purposes of the research and the research setting are amenable to subjects' welfare and produced desired outcomes; indications of coercion or prejudice are absent, and participation is clearly voluntary.

In addition, the IRB found you will orient participants as follows: (1) informed consent is required; (2) Provision is made for collecting, using and storing data in a manner that protects the safety and privacy of the subjects and the confidentiality of the data; (3) Appropriate safeguards are included to protect the rights and welfare of the subjects. (4) The school's internal currency (called CAST CASH) used to buy items at the school store will be raffled among participating students.

**This project was approved at the Full Board Review Level until August 31, 2020**

2. Please note that the institution is not responsible for any actions regarding this protocol before approval. If you expand the project at a later date to use other instruments, please re-apply. Copies of your request for human subjects review, your application, and this approval, are maintained in the Office of Research Integrity and Compliance.

Report any changes to this approved protocol to this office. Notify the IRB of any unanticipated events, serious adverse events, and breach of confidentiality within 3 days.

Sincerely,

Monica Gonzales  
IRB Regulatory Manager  
Office of Research Integrity and Compliance  
Texas State University

CC: Dr. Larry Price

OFFICE OF THE ASSOCIATE VICE PRESIDENT FOR RESEARCH

601 University Drive | JCK #489 | San Marcos, Texas 78666-4616

Phone: 512.245.2314 | fax: 512.245.3847 | WWW.TXSTATE.EDU

*This letter is an electronic communication from Texas State University-San Marcos, a member of The Texas State University System.*

## APPENDIX F: IRB STUDENT INFORMED CONSENT FORM



Dear Student:

Russell Krummell, a graduate student at Texas State University, is conducting a research study to explore the relationship between school climate and student self-efficacy. You are being asked to complete this survey because you have been a student at CAST TECH High School for one or more years and are familiar with its school climate.

Participation is voluntary and there is no penalty for non-participation. This survey will not affect your grades/attendance. If you are not at least 18 years old, in order to take this survey you must get a parental permission form completed and signed in addition to signing this consent form.

The survey will take approximately 25 minutes or less to complete. By taking part in this survey, you will participate in a raffle of four \$25 Amazon gift cards. Other possible benefits from this study are to better understand whether a positive/negative school climate - in terms of the teaching and learning environment, interpersonal relationships, and level of student engagement, connectedness, and belonging - is related to students' sense of academic, emotional, and social self-efficacy (self-confidence at performing academically, emotionally, and socially at school).

This study involves no foreseeable serious risks. We ask that you try to answer all questions and answer them truthfully (there are no wrong answers); however, if there are any items that make you uncomfortable or that you would prefer to skip, please leave the answer blank.

Your responses are confidential and reasonable efforts will be made to keep the personal information in your research record private and confidential. Any identifiable information obtained in connection with this study will remain confidential and will be disclosed only with your permission or as required by law. The members of the research team and the Texas State University Office of Research Compliance (ORC) may access the data. The ORC monitors research studies to protect the rights and welfare of research participants.

Your name will not be used in any written reports or publications which result from this research. Data will be kept for three years (per federal regulations) after the study is completed and then destroyed.

If you have any questions or concerns, feel free to contact Russell Krummell at:

**Russell Krummell, graduate student**  
**Major in School Improvement, Texas State University**  
**Tel. 512-363 0334, rk15682@txstate.edu**

The Initial Project Submission Protocol 6669 titled "CORRELATES OF PATHWAYS BETWEEN SCHOOL CLIMATE AND SELF-EFFICACY: A STUDY OF TENTH AND ELEVENTH GRADERS IN A PUBLIC SCHOOL" was approved by the Texas State IRB on September 4, 2019. Pertinent questions or concerns about the research, research participants' rights, and/or research-related injuries to participants should be directed to the IRB chair, Dr. Denise Gobert 512-716-2652 – (dgobert@txstate.edu) or to Monica Gonzales, IRB Regulatory Manager 512-245-2334 - (meg201@txstate.edu).

If you consent to participate in this survey, please sign, print your name, and date below:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Date

## APPENDIX G: IRB PARENTAL/GUARDIAN PERMISSION FORM



### PARENT/GUARDIAN INFORMED CONSENT

**Study Title:** CORRELATES OF PATHWAYS BETWEEN SCHOOL CLIMATE AND SELF-EFFICACY: A STUDY OF NINTH AND TENTH GRADERS IN A PUBLIC SCHOOL  
**Principal Investigator:** Russell Krummell

Dear Parent/Guardian:

My name is Russell Krummell and I am a graduate student in the School Improvement Program in the Department of Counseling, Leadership, Adult Education, and School Psychology at Texas State University. I am asking for your permission to include your child in my research. This consent form will give you the information you will need to understand why this study is being done and why your child is being invited to participate. It will also describe what your child will need to do to participate as well as any known risks, inconveniences or discomforts that your child may have while participating. I encourage you to ask questions at any time. If you decide to allow your child to participate, you will be asked to sign this form and it will be a record of your agreement to participate. You will be given a copy of this form to keep if you so choose.

#### ➤ PURPOSE AND BACKGROUND

The high school-age student represents an understudied and yet critical population in the study of the relationship between school climate and self-efficacy. Studies in the US and abroad, both cross-sectional and longitudinal, show that students' sense of self-efficacy generally decreases beginning in the middle school years and extending into high school. Further, research on national, state, and local samples also shows that important factors of school climate such as students' enthusiasm for school, connectedness, and engagement diminish during students' secondary years. Studying the association between student perceptions of school climate and their self-efficacy beliefs may provide school practitioners with clues to explain the declines. The study results could also guide school practitioners as to whether they should invest in school climate to develop student self-efficacy or investigate other pathways to develop this important correlate of student achievement.

#### ➤ PROCEDURES

This study will require your child to take a confidential 20-30 online survey within a week period during a school day in the month of December. The survey may be taken within his/her advisory (AVID) class at school, before/after school but not during his/her academic or core class periods. The survey asks students their perceptions of the school climate they are experiencing at CAST TECH High School and their sense of self-efficacy. Specifically, the survey asks them to rate the teaching and learning environment, the conditions for developing interpersonal relationships with peers and staff, and their sense of engagement, connectedness and belonging to school as well as their beliefs in their academic, emotional, and social self-efficacy. No personally identifiable information that links your child to his/her survey responses will be collected. If your



child is given permission to take the survey by you, s/he will be informed of their participation and receive a link to the survey via his/her SAISD email.

The survey is completely voluntary and if you choose not to allow your child to participate, there is no penalty and his/her grades/attendance will not be affected. Students who take part in the survey will participate in a raffle of four \$25 Amazon gift cards.

➤ **RISKS/DISCOMFORTS**

Students may feel minimal discomfort reflecting about their self-efficacy in order to answer the questions and may not want others nearby to see their responses. To make them feel comfortable, students may complete the online survey at any time during the week window allowed – except during their academic/core classes – when they feel they can safely and privately complete it. Again, student participation is completely voluntary and participation/non-participation does not impact their attendance or grades.

➤ **EXTENT OF CONFIDENTIALITY**

Reasonable efforts will be made to keep the personal information in your child's research record private and confidential. Any identifiable information obtained in connection with this study will remain confidential and will be disclosed only with your permission or as required by law. The members of the research team and Texas State University Office of Research and integrity (ORC) may access the data. The ORC monitors research studies to protect the rights and welfare of research participants.

Your child's name will not be used in any written reports or publications which result from this research. Data will be kept for three years (per federal regulations) after the study is complete and then destroyed.

➤ **BENEFITS**

Aside from possibly winning the Amazon gift card raffle described earlier offered as an incentive to participate in the study, there are no direct immediate benefits to your child from completing the survey. Since a copy of the study results will be provided to the CAST TECH High School administrative team, however, your child may experience measures taken to increase student self-efficacy/the school climate at CAST Tech High School in their final year(s) of high school. Ultimately, it is hoped that future students will benefit from the research through improved learning spaces and teaching practices that enhance their sense of self-efficacy and achievement.

➤ **PAYMENT/COMPENSATION**

As mentioned, students who participate will participate in a raffle of four Amazon gift cards (value of \$25 apiece).

➤ **QUESTIONS**

If you have any questions or concerns about your child's participation in this study, you may contact the Principal Investigator, Russell Krummell, at tel. 512 363-0334 or at [rk15682@txstate.edu](mailto:rk15682@txstate.edu).

This project was approved by the Texas State IRB on September 4, 2019. Pertinent questions or concerns about the research, research participants' rights, and/or research-related injuries to participants should be directed to the IRB Chair, Dr. Denise Gobert 512-716-2652 – ([lasser@txstate.edu](mailto:lasser@txstate.edu)) or to Monica Gonzales, IRB Regulatory Manager 512-245-2314 - ([meg201@txstate.edu](mailto:meg201@txstate.edu)).

# TEXAS STATE<sup>®</sup>

## DOCUMENTATION OF CONSENT

I have read this form and decided that my child will participate in the project described above. Its general purposes, the particulars of involvement and possible risks have been explained to my satisfaction. I will discuss this research study with my child and explain the procedures that will take place. I understand I can withdraw my child at any time.

---

Printed Name of Child

---

Printed Name of Parent/Guardian

---

Signature of Parent/Guardian

---

Date

---

Signature of Person Obtaining Consent

---

Date

# TEXAS STATE<sup>®</sup>

CONSENTIMIENTO INFORMADO DEL PADRE /TUTOR

**Título del estudio:** CORRELADOS DE CAMINOS ENTRE EL CLIMA ESCOLAR Y LA AUTOEFICIENCIA: UN ESTUDIO DE NOVENA Y DÉCIMO GRADOS EN UNA ESCUELA PÚBLICA

**Investigador principal:** Russell Krummell

Estimado Padre/Tutor:

Mi nombre es Russell Krummell y soy un candidato para doctorado en el Programa de Mejoramiento Escolar en el Departamento de Asesoramiento, Liderazgo, Educación de Adultos y Psicología Escolar en Texas State University. Por este medio, solicito su permiso para incluir a su hijo/a en mi investigación. Este formulario de consentimiento le proveerá la información necesaria para entender por qué se realiza este estudio y por qué se invita a su hijo/a a participar de ella. También describiré lo que su hijo/a deberá hacer para participar, así como los contemplados riesgos, inconvenientes o incomodidades que su hijo/a pueda tener al participar. Le invito a hacer preguntas en cualquier momento. Si decide permitir que su hijo/a participe, se le pedirá que firme este formulario y servirá como un registro de su acuerdo para participar. Si desea, se le entregará una copia de este formulario para que la conserve.

➤ **PROPÓSITO Y ANTECEDENTES**

El estudiante de escuela secundaria representa una población poco estudiada y, sin embargo, crítica en el estudio de la relación entre el clima escolar y la autoeficacia. Los estudios en los Estados Unidos y en el extranjero, tanto transversales como longitudinales, muestran que el sentido de autoeficacia de los estudiantes generalmente disminuye a partir de los años de escuela intermedia y se extiende a la escuela secundaria. Además, la investigación sobre poblaciones nacionales, estatales y locales también muestra que los factores importantes del clima escolar, como el entusiasmo de los estudiantes por el colegio, la conexión y el compromiso que sienten hacia ella, disminuyen durante los años secundarios. El estudio de la asociación entre las percepciones de los estudiantes sobre el clima escolar y sus creencias de autoeficacia puede proporcionar a los profesionales en educación pistas para explicar estas disminuciones. Los resultados del estudio también podrían guiar a los educadores en cuanto al beneficio de invertir en el mejoramiento del clima escolar como estrategia para desarrollar la autoeficacia de los estudiantes, o, caso contrario, en investigar otras vías para desarrollar este importante correlato del rendimiento de los estudiantes.

➤ **PROCEDIMIENTOS**

Este estudio requerirá que su hijo/a tome una encuesta confidencial on-line (por internet) de 20-30 minutos durante una ventana de una semana durante el mes de diciembre. Su hijo/a podrá usar su tiempo antes o después del horario escolar, o su tiempo de AVID, el horario no-académico que tiene todos los días, para completar la encuesta si lo desea. Sin embargo, no deberá usar su tiempo durante una clase académica. La encuesta les pregunta a los estudiantes sus percepciones del clima escolar en CAST TECH High School y su sentido de autoeficacia. Específicamente, la encuesta les pide que califiquen el ambiente de enseñanza y aprendizaje en el colegio, las condiciones para desarrollar relaciones interpersonales con compañeros y el plantel, y su nivel de participación, conexión y pertenencia a la escuela, así como una estimación de su autoeficacia académica, emocional y social. No se recolectará información de índole personal que pueda identificar personalmente a su hijo/a con sus respuestas. Si permite que su hijo/a participe, el/la será informado de su participación y será dado instrucciones a través de su correo electrónico de SAISD. Si decide que su hijo/a no participe, no habrá ninguna penalidad y no sufrirá ningún cambio sus notas/récord de



asistencia a clase. Los estudiantes que aceptan ser parte del estudio, sin embargo, participarán en una rifa de cuatro tarjetas de regalo Amazon (con un valor de \$25 cada uno).

➤ **RIESGOS/INCOMODIDADES**

Los estudiantes pueden sentir una mínima incomodidad al reflexionar sobre su autoeficacia para responder las preguntas. Por esta razón, y para asegurar su privacidad y la confidencialidad de sus respuestas, los estudiantes tienen esa ventana de una semana para elegir ese espacio donde se sienten seguros y en privado para completar la encuesta on-line. Como fue explicado anteriormente, la participación de los estudiantes es completamente voluntaria y su participación/no-participación no afectará sus notas o récord de asistencia a clases de ninguna forma.

➤ **GRADO DE CONFIDENCIALIDAD**

Se harán esfuerzos razonables para mantener la información personal de su hijo/a privada y confidencial. Cualquier información identificable obtenida en relación con este estudio se mantendrá confidencial y se divulgará solo con su permiso o según lo exija la ley. Los miembros del equipo de investigación y la Oficina de Investigación e Integridad de Texas State University (IRB) pueden acceder a los datos. El IRB supervisa los estudios de investigación para proteger los derechos y el bienestar de los participantes de la investigación.

El nombre de su hijo/a no se utilizará en ningún informe escrito o publicación que resulte de esta investigación. Los datos se mantendrán durante tres años (según las regulaciones federales) una vez que se complete el estudio y luego se destruirán.

➤ **BENEFICIOS**

Aparte de la posibilidad de ganar el sorteo de una tarjeta de regalo Amazon descrito anteriormente ofrecido como incentivo para participar en el estudio, no hay beneficios inmediatos directos para su hijo/a por completar la encuesta. Una copia de los resultados del estudio, sin embargo, será proveído al plantel administrativo del colegio CAST TECH y posiblemente, por este medio, su hijo/a gozará de un espacio mejorado durante su(s) último(s) año(s) de colegio. En última instancia, sin embargo, es la esperanza que los estudiantes del futuro se beneficiarán de la investigación mediante la aplicación de lo aprendido en la mejora de los espacios de aprendizaje y las prácticas de enseñanza que realzarán el sentido de autoeficacia y rendimiento académico del alumnado.

➤ **PAGO/COMPENSACIÓN**

Como se mencionó, los estudiantes que toman parte participarán en una rifa de cuatro tarjetas de regalo Amazon (valor de \$25 cada uno).

➤ **PREGUNTAS**

Si tiene alguna pregunta o inquietud sobre la participación de su hijo/a en este estudio, puede comunicarse con el investigador principal, Russell Krummell, al tel. (512) 363-0334 o en la dirección de correo electrónico rk15682@txstate.edu.

Este proyecto fue aprobado por el IRB del estado de Texas el 4 de setiembre 2019. Sus preguntas o inquietudes pertinentes a la investigación, los derechos de los participantes de la investigación, y cualquier daño/prejuicio a los participantes relacionados con la investigación deben dirigirse a la directora de IRB, Dra. Denise Gobert, tel. 512-716-2652 (lasser@txstate.edu) o a Mónica Gonzales, la gerente reguladora de IRB, tel. 512-245-2314 - (meg201@txstate.edu).

# TEXAS STATE<sup>®</sup>

- **DOCUMENTACIÓN DE CONSENTIMIENTO** He leído este formulario y he decidido que mi hijo/a participará en el proyecto descrito anteriormente. Sus propósitos generales, los detalles de la participación y los posibles riesgos han sido explicados a mi entera satisfacción. Compartiré este estudio de investigación con mi hijo/a y le explicaré los procedimientos que se llevarán a cabo. Entiendo que puedo retirar a mi hijo/a en cualquier momento del estudio.

---

Nombre impreso del niño

---

Nombre impreso del padre/tutor

---

Firma del padre/tutor

---

Fecha

---

Firma de la persona que obtiene consentimiento

---

Fecha



## APPENDIX H: DISTRICT PARENTAL/GUARDIAN PERMISSION FORM



### SAN ANTONIO INDEPENDENT SCHOOL DISTRICT

---

#### SURVEY NOTICE AND PERMISSION FORM

December 2, 2019

Dear CAST TECH High School Tenth/Eleventh Grade Parent/Guardian:

Provided you give consent, your son or daughter is among the students who will be given a survey to complete the week of December 9 – 13, 2019.

The title of the survey is Perceptions of School Climate and Beliefs about Self-Efficacy. The person who is requesting permission to administer the survey is Russell Krummell, ninth grade teacher at CAST TECH High School and principal investigator for a study on the relationship between school climate and student self-efficacy. This study is a part of the requirements for completion of a doctoral dissertation in the major of School Improvement at Texas State University.

The purpose for the survey is to find out whether students' views on the school climate at their school are significantly related to their beliefs about their self-efficacy. A student's self-efficacy is his/her belief in his/her capability to achieve goals or outcomes.

The topics covered in the survey include the following: for school climate: (a) students' views about the teaching and learning environment at the school, (b) the school-related interpersonal relationships they have, and (c) the institutional environment at CAST TECH (their sense of belonging and how connected and engaged they feel at school both in and out of the classroom); for self-efficacy: students' beliefs about (a) their academic self-efficacy (being able to complete schoolwork), (b) emotional self-efficacy (being able to manage their emotions), and (c) social self-efficacy (being able to navigate social situations with school peers and adult staff).

Before your son/daughter completes the survey, the San Antonio Independent School District requires your written permission. Please complete the section at the bottom of this letter and have your son/daughter return it to the school. A student not returning the survey permission form will not be given the survey.

If you have any questions or wish to review a copy of the survey or its results, call at this phone number (512) 363-0334. The survey will ultimately benefit students because it will provide the CAST TECH High School administrative team with data on how two important factors in enhancing student achievement, school climate and student self-efficacy, are related to each other.

Sincerely,

Dr. Melissa Alcalá  
Principal, CAST TECH High School

San Antonio Independent School District does not discriminate on the basis of race, religion, color, national origin, sex, or disability in providing education services, activities, and programs, including vocational programs, in accordance with Title VI of the Civil Rights Act of 1964, as amended; Title IX of the Educational Amendments of 1972; Section 504 of the Rehabilitation Act of 1973, as amended.

Return this form to: Russell Krummell at CAST TECH High School, Room C1207.

## SURVEY PERMISSION

Note: A questionnaire/survey means a collection of questions or statements requiring a written or recorded response from a student that includes controversial topics such as political affiliations, sexual behavior and attitudes, mental and psychological problems potentially embarrassing to the student or family, critical appraisals of other individuals with whom the student has a close family relationship, illegal and demeaning behavior, and legally recognized privileged relationships such as with lawyers, physicians and ministers. Consent from parents/guardians is required under Federal and State law.

As the parent/guardian of [print student's name] \_\_\_\_\_  
I hereby grant permission for my son/daughter to complete the survey listed/described above.

Printed name of parent/guardian: \_\_\_\_\_

Signature of parent/guardian: \_\_\_\_\_ Date: \_\_\_\_\_

San Antonio Independent School District does not discriminate on the basis of race, religion, color, national origin, sex, or disability in providing education services, activities, and programs, including vocational programs, in accordance with Title VI of the Civil Rights Act of 1964, as amended; Title IX of the Educational Amendments of 1972; Section 504 of the Rehabilitation Act of 1973, as amended.



## SAN ANTONIO INDEPENDENT SCHOOL DISTRICT

### **NOTIFICACIÓN DE ENCUESTA Y FORMA DE SOLICITUD DE PERMISO**

2 de diciembre 2019

Estimado Padre de Familia/Tutor de un alumno de Decimo/Undécimo Grado de CAST TECH High School:

Si usted da su permiso su hijo o hija estará entre los estudiantes que recibirán una encuesta para ser completado en la semana del 9 – 13 de diciembre.

El título de la encuesta es: Percepciones Sobre el Ambiente Escolar y Convicción en la Autoeficacia. La persona que solicita su permiso para la administración del cuestionario/encuesta es Russell Krummell, docente del grado noveno de CAST TECH High School e investigador principal de un estudio sobre la relación entre el ambiente escolar y la convicción en autoeficacia estudiantil. El estudio es parte de los requisitos para completar su tesis doctoral en el área de Mejoramiento Escolar en Texas State University.

El propósito de la encuesta es de cerciorar si existe relación significativa entre las percepciones estudiantiles sobre su ambiente escolar y su convicción en su autoeficacia. La autoeficacia estudiantil es la convicción en poder realizar una deseada meta u objetivo.

Los tópicos que serán cubiertos en la encuesta incluyen los siguientes: En cuanto al ambiente escolar: (a) percepciones de los alumnos sobre el ambiente pedagógico/de aprendizaje en el colegio, (b) las relaciones interpersonales que tienen en el colegio, y (c) el ambiente institucional en CAST TECH High School (el sentido de pertenencia, de conexión, e involucramiento que sienten con el colegio adentro y afuera del aula). En cuanto a autoeficacia: las convicciones de los alumnos sobre (a) su autoeficacia académica (para poder completar los trabajos académicos); (b) su autoeficacia emocional (para poder manejar sus emociones), y (c) su autoeficacia social (para poder navegar situaciones sociales en el colegio con sus pares y el plantel).

La persona que administrará la encuesta ha programado una junta con los padres/tutores para discutir la encuesta. Usted está invitado(a) a asistir a esta junta en el siguiente lugar y hora: Aula C1207, Cast Tech High School, Viernes, 8 de diciembre, 4:15 – 4:45 horas.

Antes de que su hijo/hija complete la encuesta, el Distrito Escolar Independiente de San Antonio requiere de su permiso por escrito. Por favor complete la sección a continuación en la parte inferior de esta carta y haga que su hijo/hija la regrese a la escuela. Cualquier estudiante que no regrese la forma completa del permiso para la encuesta o cuestionario no recibirá la encuesta.

Si usted tiene cualquier pregunta o desea revisar una copia de la encuesta, o ver los resultados, llame a Russell Krummell en el número de teléfono (512) 363-0334. Este estudio le beneficiará al alumnado porque se ha encontrado en las investigaciones científicas que altos índices en percepciones del ambiente escolar y la autoeficacia estudiantil están correlacionados con mejoras en el rendimiento estudiantil, y los resultados ayudarán a cerciorar si una correlación existe entre estos dos factores de importancia en el rendimiento estudiantil.

Sinceramente,

Directora Melissa Alcalá, PhD.  
CAST TECH High School

Es norma del Distrito Escolar Independiente de San Antonio de no discriminar por motivos de raza, religión, color, origen nacional, sexo o impedimento, en sus programas, servicios o actividades vocacionales, tal como lo requiere el Título VI de la Ley de Derechos Civiles de 1964, según enmienda; el Título IX de las Enmiendas en la Educación, de 1972, y la Sección 504 de la Ley de Rehabilitación de 1973, según enmienda.

Retorne esta forma a: Russell Krummell, CAST TECH High School, Aula C1207

### PERMISO PARA CONTESTAR UNA ENCUESTA

Nota: una encuesta significa una colección de preguntas o declaraciones que requieren una respuesta escrita o grabada de un estudiante que incluyen tópicos controversiales tales como afiliación política, conducta sexual y actitudes, problemas mentales y psicológicos que son potencialmente penosos para el estudiante o su familia, evaluaciones críticas de otros individuos con los cuales el estudiante tiene una relación familiar estrecha, conducta impropia o ilegal, y relaciones reconocidas legalmente como privilegiadas tales como las que existen entre abogados, doctores y ministros religiosos. La autorización de los padres/guardianes es requerida bajo la ley y federal.

Como el (la) padre/madre/tutor de [escriba el nombre del estudiante] \_\_\_\_\_,  
Yo, doy mi permiso para que mi hijo/hija complete la encuesta.

Nombre del padre/madre/tutor: \_\_\_\_\_

Firma del padre/madre/tutor: \_\_\_\_\_ Fecha: \_\_\_\_\_

Es norma del Distrito Escolar Independiente de San Antonio de no discriminar por motivos de raza, religión, color, origen nacional, sexo o impedimento, en sus programas, servicios o actividades vocacionales, tal como lo requiere el Título VI de la Ley de Derechos Civiles de 1964, según enmienda; el Título IX de las Enmiendas en la Educación, de 1972, y la Sección 504 de la Ley de Rehabilitación de 1973, según enmienda.

## REFERENCES

- Aldridge, J. M., & Fraser, B. J. (2016). Teachers' views of their school climate and its relationship with teacher self-efficacy and job satisfaction. *Learning Environments Research*, 19(2), 291–307. doi: 10.1007/s10984-015-9198-x
- Alivernini, F., & Lucidi, F. (2011). Relationship between social context, self-efficacy, motivation, academic achievement, and intention to drop out of high school: A longitudinal study. *The Journal of Educational Research*, 104(4), 241–252. doi: 10.1080/00220671003728062
- Allen, K., Kern, M. L., Vella-Brodrick, D., Hattie, J., & Waters, L. (2018). What schools need to know about fostering school belonging: A meta-analysis. *Educational Psychology Review*, 30(1), 1–34. doi: 10.1007/s10648-016-9389-8
- Allen, K.-A., Vella-Brodrick, D., & Waters, L. (2016). Fostering school belonging in secondary schools using a socio-ecological framework. *The Educational and Developmental Psychologist*, 33(1), 97–121. doi: 10.1017/edp.2016.5
- Anderson, C. (1982). The search for school climate: A review of the research. *Review of Educational Research*, 52(3), 368–420. doi:10.3102/00346543052003368
- Anderson, N. (2015, August 26). ACT's college admission testing grows, but scores stagnate. Grade Point, *The Washington Post*. Retrieved August 12, 2018, from [https://www.washingtonpost.com/news/grade-point/wp/2015/08/26/acts-college-admission-testing-grows-but-scores-stagnate/?utm\\_term=.28599f2ee211](https://www.washingtonpost.com/news/grade-point/wp/2015/08/26/acts-college-admission-testing-grows-but-scores-stagnate/?utm_term=.28599f2ee211)
- Anderson, S. L., & Betz, N. E. (2001). Sources of social self-efficacy expectations: Their measurement and relation to career development. *Journal of Vocational Behavior*, 58(1), 98–117. doi: 10.1006/jvbe.2000.1753

- Annesi, J. (2006). Relations of physical self-concept and self-efficacy with frequency of voluntary physical activity in preadolescents: Implications for after-school care programming. *Journal of Psychosomatic Research*, 61(4), 515–520. doi: 10.1016/j.jpsychores.2006.04.009
- Archer, M., Sharp, R., Stones, R., & Woodiwiss, T. (2015). Critical realism and research methodology. *Alethia*, 2(1), 12–16. doi: 10.1558/aleth.v2i1.12
- Arnaudova, I. (2014, October 31). *Ten tips for developing a programmatic line of research*. Association for Psychological Science. Retrieved November 12, 2018, from <https://www.psychologicalscience.org/observer/ten-tips-for-developing-a-programmatic-line-of-research>
- Arslan, G. (2018). Exploring the association between school belonging and emotional health among adolescents. *International Journal of Educational Psychology*, 7(1), 21–41. doi: 10.17583/ijep.2018.3117
- Artino A. R. (2012). Academic self-efficacy: From educational theory to instructional practice. *Perspectives on Medical Education*, 1(2), 76–85. doi: 10.1007/s40037-012-0012-5
- Ashiabi, G. S., & O’Neal, K. K. (2015). Child social development in context: An examination of some propositions in Bronfenbrenner’s Bioecological Theory. *SAGE Open*, 5(2), 1–15. doi: 10.1177/2158244015590840
- Association for Supervision and Curriculum Development [ASCD]. (2016). Every Student Succeeds Act (ESSA): ESSA implementation resources for educators. Retrieved December 12, 2018, from [http://www.ascd.org/ASCD/pdf/siteASCD/policy/ESSA-Accountability-FAQ\\_May112016.pdf](http://www.ascd.org/ASCD/pdf/siteASCD/policy/ESSA-Accountability-FAQ_May112016.pdf)

- Baker, J. A., Grant, S., & Morlock, L. (2008). The teacher-student relationship as a developmental context for children with internalizing or externalizing behavior problems. *School Psychology Quarterly*, 23(1), 3–15. doi: 10.1037/1045-3830.23.1.3
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1992). Exercise of personal agency through the self-efficacy mechanism. In R. Schwarzer (Ed.), *Self-efficacy: Thought control of action* (pp. 3–38). Washington, DC: Hemisphere Publishing Corp.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117–148. doi: 10.1207/s15326985ep2802\_3
- Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71–81). New York, NY: Academic Press. (Reprinted in H. Friedman [Ed.], *Encyclopedia of mental health*. San Diego, CA: Academic Press, 1998).
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.
- Bandura, A. (2005). The evolution of social cognitive theory. In K. G. Smith & M. A. Hitt (Eds.), *Great Minds in management* (pp. 9–35). Oxford, UK: Oxford UP.
- Bandura, A. (2006). Guide for constructing self-efficacy scales. In T. C. Urdan & F. Pajares (Eds.), *Self-efficacy beliefs of adolescents* (pp. 307–337). Charlotte, NC: Information Age Publishing.

- Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development, 72*(1), 187–206.
- Bandura, A., Caprara, G. V., Barbaranelli, C., Gerbino, M., & Pastorelli, C. (2003). Role of affective self-regulatory efficacy in diverse spheres of psychosocial functioning. *Child Development, 74*(3), 769–82.
- Bandura, A., Caprara, G. V., Barbaranelli, C., Pastorelli, C., & Regalia, C. (2001). Sociocognitive self-regulatory mechanisms governing transgressive behavior. *Journal of Personality and Social Psychology, 80*(1), 125–135. doi: 10.1037//0022-3514.80.1.125
- Bandura, A., Pastorelli, C., Barbaranelli, C., & Caprara, G. V. (1999). Self-efficacy pathways to childhood depression. *Journal of Personality and Social Psychology, 76*(2), 258–269. doi: 10.1037/0022-3514.76.2.258
- Barber, M. (2018, January 14). Data science concepts you need to know! Part 1. *Towards Data Science*. Retrieved January 7, 2020, from <https://towardsdatascience.com/introduction-to-statistics-e9d72d818745>
- Battistich, V., Solomon, D., Kim, D., Watson, M., & Schaps, E. (1995). Schools as communities, poverty levels of student populations, and students' attitudes, motives, and performance: A multilevel analysis. *American Educational Research Journal, 32*(3), 627–658. doi: 10.3102/00028312032003627



- Bear, G., Yang, C., Harris, A., Mantz, L., Hearn, S., & Boyer, D. (2016). *Technical manual for the Delaware School Survey: Scales of school climate; bullying victimization; student engagement; positive, punitive, and social emotional learning techniques; and social and emotional competencies*. Newark, DE: Center for Disabilities Studies.
- Beck, M. (2008, April 29). If at first you don't succeed, you're in excellent company. *The Wall Street Journal* (p. D1). Retrieved January 3, 2019, from <https://www.wsj.com/articles/SB120940892966150319>
- Berg, J., Osher, D., Moroney, D., & Yoder, N. (2017). *The intersection of school climate and social and emotional development*. American Institute for Research (AIR). Retrieved December 9, 2018, from <https://www.air.org/resource/intersection-school-climate-and-social-and-emotional-development>
- Berg, J., Osher, D., Same, M. R., Nolan, E., Benson, D., & Jacobs, N. (2017). *Identifying, defining, and measuring social and emotional competencies: Final report*. American Institute for Research (AIR). Retrieved August 9, 2018, from <https://www.air.org/sites/default/files/downloads/report/Identifying-Defining-and-Measuring-Social-and-Emotional-Competencies-December-2017-rev.pdf>
- Bhaskar, R. (2008). *A realist theory of science* (3rd ed.). London, UK: Verso.
- Bhattacharjee, A. (2012). *Social science research: Principles, methods, and practices* (2nd ed.). Tampa, FL: University of South Florida. Open Access Textbooks Collection, Book 3. Retrieved December 3, 2018, from [http://scholarcommons.usf.edu/oa\\_textbooks/3](http://scholarcommons.usf.edu/oa_textbooks/3)

- Biglan, A. (1987). A behavior-analytic critique of Bandura's self-efficacy Theory. *The Behavior Analyst*, 10(1), 1–15.
- Bilgin, M., & Akkapulu, E. (2007). Some variables predicting social self-efficacy expectation. *Social Behavior and Personality*, 35(6), 777–788. doi: 10.2224/sbp.2007.35.6.777
- Binet, A., & Simon, T. (1916). *The development of intelligence in children (The Binet-Simon Scale)*. Baltimore, MD: Williams & Wilkins.
- Bjorner, J. B., Chang, C. H., Thissen, D., & Reeve, B. B. (2007). Developing tailored instruments: Item banking and computerized adaptive assessment. *Quality of Life Research*, 16(Suppl 1), 95–108. doi: 10.1007/s11136-007-9168-6
- Boekaerts, M., Pintrich, P. R., & Zeidner, M. (Eds.), (2000). *Handbook of self-regulation*. San Diego, CA: Academic Press.
- Bong, M., & Clark, R. E. (1999). Comparison between self-concept and self-efficacy in academic motivation research. *Educational Psychologist*, 34(3), 139–153. doi: 10.1207/s15326985ep3403\_1
- Booth, M. Z., & Gerard, J. M. (2012). Adolescents' stage-environment fit in middle and high school: The relationship between students' perceptions of their schools and themselves. *Youth & Society*, 46(6) 735–755. doi: 10.1177/0044118X12451276
- Brand, S., Felner, R., Shim, M., Seitsinger, A., & Dumas, T. (2003). Middle school improvement and reform: Development and validation of a school-level assessment of climate, cultural pluralism, and school safety. *Journal of Educational Psychology*, 95(3), 570–588. doi: 10.1037/0022-0663.95.3.570.

- Brennan, R. L. (2004). *Manual for BB-CLASS: A computer program that uses the Beta-Binomial Model for classification consistency and accuracy (Version 1.0)* (CASMA Research Report No. 9). Iowa City, IA: Center for Advanced Studies in Measurement and Assessment, University of Iowa.
- Brown, E. (2015, October 27). U.S. student performance slips on national test. Education, *The Washington Post*. Retrieved July 5, 2018, from [https://www.washingtonpost.com/local/education/us-student-performance-slips-on-national-test/2015/10/27/03c80170-7cb9-11e5-b575-d8dcfedb4ea1\\_story.html?utm\\_term=.47bcc006a9b7](https://www.washingtonpost.com/local/education/us-student-performance-slips-on-national-test/2015/10/27/03c80170-7cb9-11e5-b575-d8dcfedb4ea1_story.html?utm_term=.47bcc006a9b7)
- Bru, E., Stephens, P., & Torsheim, T. (2002). Students' perceptions of class management and reports of their own misbehavior. *Journal of School Psychology, 40*(4), 287–307. doi:10.1016/S0022-4405(02)00104-8
- Caprara, G., Di Giunta, L., Eisenberg, N., Gerbino, M., Pastorelli, C., & Tramontano, C. (2008). Assessing regulatory emotional self-efficacy in three countries. *Psychological Assessment, 20*(3), 227–237. doi: 10.1037/1040-3590.20.3.227
- Caprara, G. V., Pastorelli, C., & Bandura, A. (1992). Impact of perceived academic self-efficacy on interpersonal and emotional behavior. Unpublished manuscript. Stanford, CA: Stanford University.
- Caprara, G. V., & Steca, P. (2005). Self-efficacy beliefs as determinants of prosocial behavior conducive to life satisfaction across ages. *Journal of Social and Clinical Psychology, 24*(2), 191–217. doi: 10.1521/jscp.24.2.191.62271

- Caraway, K., & Tucker, C. M. (2003). Self-efficacy, goal orientation, and fear of failure as predictors of school engagement in high school students. *Psychology in the Schools, 40*(4), 417–427. doi: 10.1002/pits.10092
- Carifio, J., & Perla, R. (2008). Resolving the 50-year debate around using and misusing Likert scales. *Medical Education, 42*(12), 1150–1152. doi: 10.1111/j.1365–2923.2008.03172.x
- Carr, D. (2014). *Relationship between classroom climate, student self-efficacy, and achievement in the high school math classroom*. Honors Projects in Mathematics. Paper 16. Retrieved February 22, 2019, from [http://digitalcommons.bryant.edu/honors\\_mathematics/16](http://digitalcommons.bryant.edu/honors_mathematics/16)
- Catalano, R. F., Berglund, M. L., Ryan, J. A. M., Lonczak, H. S., & Hawkins, J. D (2002). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *Prevention & Treatment, 5*(1), Article 15. doi: 10.1037/1522-3736.5.1.515a
- Chang, D. F., & Chien, W. C. (2015, April 19). *Determining the relationship between academic self-efficacy and student engagement by meta-analysis*. Proceedings of the 2015 International Conference on Education Reform and Modern Management (pp. 142–145). doi: 10.2991/ermm–15.2015.37
- Cheung, D. S., & Lai, E. (2013). The effects of classroom teaching on students' self-efficacy for personal development. *British Journal of Guidance & Counselling, 41*(2), 164–177. doi: 10.1080/03069885.2012.721126

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Cohen, J. (1992, July 1). A power primer. *Psychological Bulletin*, 112(1), 155–59. doi: 10.1037/0033-2909.112.1.155
- Cohen, J. (2014). School climate policy and practice trends: A paradox. A Commentary. *Teachers College Record*. Retrieved June 4, 2018, from <http://www.tcrecord.org>
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Cohen, J., McCabe, E. M., Michelli, N. M., & Pickeral, T. (2009). School climate: Research, policy, practice, and teacher education. *Teachers College Record*, 111(1), 180–213.
- College Board (2016, September 16). *The College Board announces surge of students taking New SAT® Suite of assessments, creating an opportunity pathway for more than six million students*. Retrieved September 4, 2018, from <https://www.collegeboard.org/releases/2016/college-board-announces-surge-students-taking-new-sat-suite-opportunity-pathway-six-million-students>
- Collie, R. J., Shapka, J. D., & Perry, N. E. (2012). School climate and social-emotional learning: Predicting teacher stress, job satisfaction, and teaching efficacy. *Journal of Educational Psychology*, 104(4), 1189–1204. doi: 10.1037/a0029356

- Connolly, J. (1989). Social self-efficacy in adolescence: Relations with self-concept, social adjustment, and mental health. *Canadian Journal of Behavioural Science/Revue Canadienne des Sciences du Comportement*, 21(3), 258–269. doi: 10.1037/h0079809
- Cornell, D., Huang, F., Konold, T., Shukla, K., Malone, M., Datta, P., Jia, ... & Meyer, J. P. (2016). *Development of a standard model for school climate and safety assessment: Final report*. Charlottesville, VA: Curry School of Education, University of Virginia.
- Corwin Visible Learning Plus (2018). *250+ influences on student achievement*. Retrieved September 20, 2018, from [https://us.corwin.com/sites/default/files/250\\_influences\\_10.1.2018.pdf](https://us.corwin.com/sites/default/files/250_influences_10.1.2018.pdf)
- Cowles M., & Davis, C. (1982). On the origins of the 0.05 level of statistical significance. *American Psychologist*, 37(5), 553–558. doi: 10.1037/0003-066X.37.5.553
- Creswell, J. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Croninger, R. G., & Lee, V. E. (2001). Social capital and dropping out of high school: Benefits to at-risk students of teachers' support and guidance. *Teachers College Record*, 103, 548–581. doi: 10.1111/0161-4681.00127
- Crotty, M. (2003). *Foundations of social research: Meaning and perspective in the research process*. Los Angeles, CA: Sage.
- Dahlkamp, S. K., Peters, M., & Schumacher, G. (2018). Principal self-efficacy, school climate, and teacher retention: A multi-level analysis. *Alberta Journal of Educational Research*, 63(4), 357–376.

- Davis, B. R. (2013). *The effects of school administration self-efficacy on school climate and student achievement* (Doctoral dissertation). Retrieved June 15, 2018, from ProQuest Dissertations Publishing. (3578377)
- Dean, K., Walker, Z., & Jenkinson, C. (2018). Data quality, floor and ceiling effects, and test-retest reliability of the Mild Cognitive Impairment Questionnaire. *Patient Related Outcome Measures*, 9, 43–47. doi: 10.2147/PROM.S145676
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Berlin/Heidelberg, Germany: Springer Science & Business Media.
- Deng, N. (2011). *Evaluating IRT- and CTT-based methods of estimating classification consistency and accuracy indices from single administrations* (Doctoral dissertation). Open Access Dissertations, 452. Retrieved February 11, 2018, from [https://scholarworks.umass.edu/open\\_access\\_dissertations/452](https://scholarworks.umass.edu/open_access_dissertations/452)
- DePaoli, J., Atwell, M. N., & Bridgeland, D. (2017). *Ready to Lead: A national principal survey on how social and emotional learning can prepare children and transform schools. A Report for CASEL*. Civic Enterprises with Hart Research Associates. Retrieved February 14, 2020 from [http://www.casel.org/wp-content/uploads/2017/11/ReadyToLead\\_FINAL.pdf](http://www.casel.org/wp-content/uploads/2017/11/ReadyToLead_FINAL.pdf)
- Downey, G., Eccles, J. S., & Chatman, C. (2005). *Navigating the future: Social identity, coping, and life tasks*. New York, NY: Russell Sage.
- Drago-Severson, E. (2012). New opportunities for principal leadership: Shaping school climates for enhanced teacher development. *Teachers College Record*, 114(3), 1–30.

- Duckworth, A. L., & Yeager, D. S. (2015). Measurement matters: Assessing personal qualities other than cognitive ability for educational purposes. *Educational Researcher*, 44(4), 237–251. doi: 10.3102/0013189X15584327
- Dunbar, R. L., Dingel, M. J., Dame, L. F., Winchip, J., & Petzold, A. M. (2018). Student social self-efficacy, leadership status, and academic performance in collaborative learning environments. *Studies in Higher Education*, 43(9), 1507–1523. doi: 10.1080/03075079.2016.1265496
- Duncan, R., Washburn, I. J., Lewis, K. M., Bavarian, N., DuBois, D. L., Acock, A. C....Flay, B. R. (2017). Can universal SEL programs benefit universally? Effects of the Positive Action Program on multiple trajectories of social-emotional and misconduct behaviors. *Prevention Science*, 18(2), 214–224. doi: 10.1007/s11121-016-0745-1
- Dunning, D., Heath, C., & Suls, J. M. (2004). Flawed self-assessment: Implications for health, education, and the workplace. *Psychological Science in the Public Interest*, 5(3), 69–106. doi: 10.1111/j.1529-1006.2004.00018.x
- Dweck, C. S. (2000). *Self-theories: Their role in motivation, personality, and development*. Philadelphia, PA: Taylor & Francis.
- Eliot, M., Cornell, D., Gregory, A., & Fan, X. (2010). Supportive school climate and student willingness to seek help for bullying and threats of violence. *Journal of School Psychology*, 48(6), 533–553, doi: 10.1016/j.jsp.2010.07.001



- Eccles, J. S., Midgley, C., & Adler, T. F. (1984). Grade-related changes in the school environment: Effects on achievement motivation. In J. G. Nicholls (Ed.), *The development of achievement motivation* (pp. 283–331). Greenwich, CT: JAI Press.
- Esser, F., & Vliegenthart, R. (2017). Comparative research methods. In J. Matthes, C. S. Davis, & R. F. Potter (Eds.), *The international encyclopedia of communication research methods*. Hoboken, NJ: John Wiley & Sons, Inc. doi: 10.1002/9781118901731.iecrm0035
- Every Student Succeeds Act (2015). Pub. L. No. 114–95 § 114 Stat. 1177 (2015–2016).
- Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2012). *Teaching adolescents to become learners. The role of noncognitive factors in shaping school performance: A critical literature review*. Chicago, IL: University of Chicago Consortium on Chicago School Research. Retrieved September 16, 2018, from <https://consortium.uchicago.edu/sites/default/files/publications/Noncognitive%20Report.pdf>
- Faster, D., & Lopez, D. (2013). School climate and assessment. In T. Dary & T. Pickeral (Eds.), *School climate practices for implementation and sustainability. A School climate practice brief* (No. 1). New York, NY: National School Climate Center.
- Federal Commission on School Safety (2018). *Final report of the Federal Commission on School Safety*. Joint Report from the U.S. Department of Education, U.S. Department of Justice, U.S. Department of Health and Human Services, and U.S. Department of Homeland Security. Retrieved January 6, 2019, from <https://www2.ed.gov/documents/school-safety/school-safety-report.pdf>

- Fowler, F. J. (2014). *Survey research methods* (5th ed.). Los Angeles, CA: Sage.
- Freese, J., & Peterson, D. (2017). Replication in Social Science. *Annual Review of Sociology*, 43(1), 147–165.
- Freiberg, H. J. (Ed.) (1999). *School climate: Measuring, improving and sustaining healthy learning environments*. Philadelphia, PA: Falmer Press.
- Gafoor, A. K., & Ashraf, P. M. (2012). Influence of school-image on academic self-efficacy belief. *Innovations and Researches in Education*, 2(1), 51–58. Retrieved June 26, 2019, from <https://files.eric.ed.gov/fulltext/ED554545.pdf>
- Gallup (2015). *Gallup student poll 2015 results*. Gallup U.S. Retrieved July 28, 2018, from <https://news.gallup.com/reports/189926/student-poll-2015-results.aspx>
- García-Moya, I., Bunn, F., Jiménez-Iglesias, A., Paniagua, C., & Brooks, F. M. (2018, January). The conceptualisation of school and teacher connectedness in adolescent research: a scoping review of literature. *Educational Review*. doi: 10.1080/00131911.2018.1424117
- García-Pérez, M. A. (2012). Statistical conclusion validity: Some common threats and simple remedies. *Frontiers of Psychology*, 3(325), 1–29. doi: 10.3389/fpsyg.2012.00325
- García-Ros, R., Fuentes, M. C., & Fernández, B. (2015). Teachers' interpersonal self-efficacy: Evaluation and predictive capacity of teacher burnout. *Electronic Journal of Research in Educational Psychology*, 13(3), 483–502. doi: 10.14204/ejrep.37.14105

- Gehlbach, H., Brinkworth, M. E., & Harris, A. D. (2011, April). The promise of social perspective taking to facilitate teacher-student relationships. Paper presented at the American Educational Research Association, New Orleans.
- Geraci, J., Palmerini, M., Cirillo, P., & McDouglad, V. (2017). What teens want from their schools: A national survey of high school student engagement. The Fordham Institute. Retrieved January 30, 2020, from <https://files.eric.ed.gov/fulltext/ED596217.pdf>
- Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: a guide for non-statisticians. *International Journal of Endocrinology and Metabolism*, 10(2), 486–489. doi: 10.5812/ijem.3505
- Gist, M. E., & Mitchell, T. R. (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management Review*, 17(2), 183–211.
- Gist, M. E., Schwoerer, C., & Rosen, B. (1989). Effects of alternative training methods on self-efficacy and performance in computer software training. *Journal of Applied Psychology*, 74(6), 884–891. doi: 10.1037/0021-9010.74.6.884
- Gordon, K. R. (2018). *High school students' perceptions of school climate in relation to discipline history and discipline approach* (Doctoral dissertation). Retrieved January 4, 2020, from [https://scholarworks.umass.edu/dissertations\\_2/1240](https://scholarworks.umass.edu/dissertations_2/1240)
- Grant, C., & Osanloo, A. (2014). Understanding, selecting, and integrating a theoretical framework in dissertation research: Creating the blueprint for your “house.” *Administrative Issues Journal: Connecting Education, Practice, and Research*, 4(2), 12–26. doi: 10.5929/2014.4.2.9

- Gregory, A., Clawson, K., Davis, A., & Gerewitz, J. (2016). The promise of restorative practices to transform teacher-student relationships and achieve equity in school discipline. *Journal of Educational and Psychological Consultation*, 26(4), 325–353. doi: 10.1080/10474412.2014.929950
- Gregory, A., & Ripski, M. B. (2008). Adolescent trust in teachers: Implications for behavior in the high school classroom. *School Psychology Review*, 37(3), 337–353. doi: 10.1080/02796015.2008.12087881
- Gregory, A., & Weinstein, R. S. (2004). Connection and regulation at home and in school: Predicting growth in achievement for adolescents. *Journal of Adolescent Research*, 19(4), 405–427. doi: 10.1177/0743558403258859
- Gregory, A., Cornell, D., Fan, X., Sheras, P., Shih, T., & Huang, F. (2010). High school practices associated with lower student bullying and victimization. *Journal of Educational Psychology*, 102(2), 483–496. doi: 10.1037/a0018562
- Greene, B., Miller, R., Crowson, H. M., Duke, B. L., & Akey, K. L. (2004). Predicting high school students' cognitive engagement and achievement: Contributions of classroom perceptions and motivation. *Contemporary Educational Psychology*, 29(4), 462–482. doi: 10.1016/j.cedpsych.2004.01.006
- Grimm, P. (2010). Social desirability bias. *Wiley international encyclopedia of marketing* (Vol. 2). doi: 10.1002/9781444316568.wiem02057
- Gruenert, S. (2008, March/April). School culture, school climate: They are not the same thing. *Principal*, 2008(March/April), 56–59. Alexandria, VA: National Association of Elementary School Principals. Retrieved June 11, 2019, from <https://www.naesp.org/sites/default/files/resources/2/Principal/2008/M–Ap56.pdf>

- Halpin, A. W., & Croft, D. B. (1963). *The organizational climate of schools*. Chicago, IL: Midwest Administration Center, University of Chicago.
- Hardy, G. (2014). Academic self-concept: Modeling and measuring for science. *Research in Science Education*, 44(4), 549–579. doi: 10.1007/s11165-013-9393-7
- Harona, S., Wan Jaafar, W. M., & Baba, M. (2010). The influence of school climate towards counselor's self-efficacy. *Procedia Social and Behavioral Sciences*, 5, 445–448. doi: 10.1016/j.sbspro.2010.07.120
- Harter, S. (1992). The relationship between perceived competence, affect, and motivational orientation with the classroom: Processes and patterns of change. In A. K. Boggiano & T. S. Pittman (Eds.), *Achievement and motivation: A social developmental perspective* (pp. 77–113). Cambridge, UK: Cambridge UP.
- Hascher, T. & Hagenauer, G. (2010). Alienation from school. *International Journal of Educational Research*, 49(6), 220–232. doi: 10.1016/j.ijer.2011.03.002
- Hattie, J. (2008). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Abingdon, UK: Routledge.
- Hawkins, M. F. (1992). Self-efficacy: A predictor but not a cause of behavior. *Journal of Behavior Therapy and Experimental Psychiatry*, 23(4), 251–256. doi: 10.1016/0005-7916(92)90047-M
- Haynes, N. M., Emmons, C., & Ben-Avie, M. (1997). School climate as a factor in student adjustment and achievement. *Journal of Educational and Psychological Consultation*, 8(3), 321–329. doi: 10.1207/s1532768xjepc0803\_4

- Hermann, K. S. (2005). *The influence of social self-efficacy, self-esteem, and personality differences on loneliness and depression* (Doctoral dissertation). Retrieved June 5, 2018, from OhioLINK Electronic Theses and Dissertations. (Accession No. 1112104621)
- Honicke, T., & Broadbent, J. (2016). The influence of academic self-efficacy on academic performance: A systematic review. *Educational Research Review*, 17, 63–84. doi: 10.1016/j.edurev.2015.11.002
- Hosford, S., & O'Sullivan, S. (2016). A climate for self-efficacy: The relationship between school climate and teacher efficacy for inclusion. *International Journal of Inclusive Education*, 20(6), 604–621. doi: 10.1080/13603116.2015.1102339
- Huang, C. (2012). Discriminant and incremental validity of self-concept and academic self-efficacy: A meta-analysis. *Educational Psychology*, 32(6), 777–805. doi: 10.1080/01443410.2012.732386
- Iatarola, P., Schwartz, A. E., Stiefel, L., & Chellman, C. C. (2008). Small schools, large districts: Small school reform and New York City's students. *Teachers College Record*, 110(9), 1837–1878. Retrieved October 11, 2018, from <https://pdfs.semanticscholar.org/35ae/bce2024c0734d2d08559abba8d2f749dc9f5.pdf>
- Isaac, S., & Michael, W. B. (1995). *Handbook in research and evaluation: A collection of principles, methods, and strategies useful in the planning, design, and evaluation of studies in education and the behavioral sciences* (3rd Ed). San Diego, CA: Educational and Industrial Testing Services.

Jessor, R., Turbin, M. S., Costa, F. M., Dong, Q., Zhang, H., & Wang, C. (2003).

Adolescent problem behavior in China and the United States: A cross-national study of psychosocial protective factors. *Journal of Research on Adolescence*, 13(3), 329–360. doi: 10.1111/1532-7795.1303004

Jöet, G., Usher, E. L., & Bressoux, P. (2011). Sources of self-efficacy: An investigation of elementary school students in France. *Journal of Educational Psychology*, 103(3), 649–663. doi: 10.1037/a0024048

Johnson, S. L. (2009). Improving the school environment to reduce school violence: A review of the literature. *Journal of School Health*, 79, 451–465. doi: 10.1111/j.1746-1561.2009.00435.x

Jones, S., Bailey, R., Brush, K., Nelson, B., & Barnes, S. (2016). *What is the same and what is different? Making sense of the “non-cognitive” domain: Helping educators translate research into practice*. Easel Lab, Harvard Graduate School of Education. Retrieved September 25, 2018, from [https://easel.gse.harvard.edu/files/gse-easel-lab/files/words\\_matter\\_paper.pdf](https://easel.gse.harvard.edu/files/gse-easel-lab/files/words_matter_paper.pdf)

Jones, S. M., & Kahn, J. (2017). *The evidence base for how we learn: Supporting students’ social, emotional, and academic development – Consensus statements of evidence from the Council of Distinguished Scientists*. Washington, DC: National Commission on Social, Emotional, and Academic Development, The Aspen Institute.

- Kane, L., Hoff, N., Cathcart, A., Heifner, A., Palmon, S. & Peterson, R. L. (2016, February). *School climate & culture. Strategy brief*. Lincoln, NE: Student Engagement Project, University of Nebraska-Lincoln and the Nebraska Department of Education. Retrieved March 7, 2018, from <http://www.k12engagement.unl.edu/school-climate-and-culture>.
- Kia-Keating, M., & Ellis, B. H. (2007). Belonging and connection to school in resettlement: Young refugees, school belonging, and psychosocial adjustment. *Clinical Child Psychology and Psychiatry*, 12(1): 29–43. doi: 10.1177/1359104507071052
- Killian, S. (2017). Hattie's 2017 updated list of factors influencing student achievement. Articles, *The Australian Society for Evidence-Based Teaching: Turning research into practical advice*. Retrieved December 4, 2017, from <http://www.evidencebasedteaching.org.au/hatties-2017-updated-list/>
- Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health*, 74(7), 262–273. doi: 10.1111/j.1746-1561.2004.tb08283.x
- Korpershoek, H., Canrinus, E. T., Fokkens-Bruinsma, M., & de Boer, H. (2019). The relationships between school belonging and students' motivational, social-emotional, behavioural, and academic outcomes in secondary education: a meta-analytic review. *Research Papers in Education*, 1–40. doi: 10.1080/02671522.2019.1615116



- Kurtz, H., Lloyd, S., Harwin, A., & Blomstrom, O. (2019). Safety and social-emotional learning: Results of a national survey. *Education Week Research Center*, Editorial Projects in Education. Retrieved February 14, 2019, from <https://www.edweek.org/media/safety-and-sel-national-survey-education-week-research-center-2019.pdf>
- Lacks, P. K. (2016). *The relationship between school climate, teacher self-efficacy and teacher beliefs* (Doctoral dissertation). Retrieved September 12, 2018, from <http://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=2384&context=doctoral>
- Lachman, M. E., Baltes, P., Nesselroade, J. R., & Willis, S. L. (1982). Examination of personality-ability relationships in the elderly: The role of the contextual (interface) assessment mode. *Journal of Research in Personality*, 16, 485–501.
- Lantieri, L., & Zakrzewski, V. (2015). How SEL and mindfulness can work together. Education: Articles & More, *Greater Good Magazine*. Retrieved January 9, 2018, from [https://greatergood.berkeley.edu/article/item/how\\_social\\_emotional\\_learning\\_and\\_mindfulness\\_can\\_work\\_together](https://greatergood.berkeley.edu/article/item/how_social_emotional_learning_and_mindfulness_can_work_together)
- Lei, H., Cui, Y., & Chiu, M. M. (2018). The Relationship between Teacher Support and Students' Academic Emotions: A Meta-Analysis. *Frontiers in psychology*, 8, 2288. doi: 10.3389/fpsyg.2017.02288
- Lerner, R. M., Bornstein, M. H., & Smith, D. C. (2003). Child well-being: From elements to integration. In M. Bornstein, L. Davidson, C. Keyes & K. Moore (Eds.), *Well-being, positive development across the life course* (pp. 501–523). Mahwah, NJ: Lawrence Erlbaum Associates.

- Lessne, D., Yanez, C., & Sinclair, M. (2018). *Measuring school climate using the 2015 school crime supplement: Technical report* (NCES 2018–098). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- Retrieved October 4, 2019, from <http://nces.ed.gov/pubsearch>.
- Lightsey Jr., O., McGhee, R., Ervin, A., Gharibian Gharghani, G., Rarey, E., Daigle, R., ... Powell, K. (2013). Self-efficacy for affect regulation as a predictor of future life satisfaction and moderator of the negative affect-life satisfaction relationship. *Journal of Happiness Studies*, 14(1), 1–18. doi: 10.1007/s10902-011-9312-4
- Livingston, S.A., & Lewis, C. (1995). Estimating the consistency and accuracy of classifications based on test scores. *Journal of Educational Measurement*, 32(2), 179–197. doi: 10.1111/j.1745-3984.1995.tb00462.x
- Loeb, S., Dynarski, S., McFarland, D., Morris, P., Reardon, S., & Reber, S. (2017). *Descriptive analysis in education: A guide for researchers*. (NCEE 2017–4023). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance.
- Loeb, C., Stempel, C., & Isaksson, K. (2016). Social and emotional self-efficacy at work. *Scandinavian Journal of Psychology*, 57(2), 152–161. doi: 10.1111/sjop.12274
- Loftus, M. (2013, September 13). When virtue becomes vice: The nature of a virtue is that a vice is almost always hidden inside. *Psychology Today*. Retrieved October 3, 2018, from <https://www.psychologytoday.com/articles/201309/when-virtue-becomes-vice>

- Loukas, A. (2007). What is school climate? High-quality school climate is advantageous for all students and may be particularly beneficial for at-risk students. *Leadership Compass*, 5(1), 1–3.
- Maciejewski, P. K., Prigerson, H. G., & Mazure, C. M. (2000). Self-efficacy as a mediator between stressful life events and depressive symptoms: Differences based on history of prior depression. *British Journal of Psychiatry*, 176, 373–378. doi: 10.1192/bjp.176.4.373
- MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education*, 12(1), 73–84. doi: 10.1080/13603120701576241
- Maddux, J. E., & Volkmann, J. (2010). Self-efficacy. In R. H. Hoyle (Ed.), *Handbook of personality and self-regulation* (pp. 315–331). Oxford, UK: Wiley-Blackwell. doi: 10.1002/9781444318111.ch14
- Mahoney, J. L., Durlak, J. A., & Weissberg, R. P. (2018). An update on social and emotional learning outcome research. *Phi Delta Kappan*, 100(4), 18–23. doi: 10.1177/0031721718815668
- Malik, N., & Amjad, S. Z. (2010, July 5–7). *Role of self-efficacy in academic achievement among students of natural and social sciences: Punjab, Pakistan*. Proceedings of the 2nd International Conference on Education and New Learning Technologies, Barcelona, Spain.

- Malinen, O. P., & Savolainen, H. (2016). The effect of perceived school climate and teacher efficacy in behavior management on job satisfaction and burnout: A longitudinal study. *Teaching & Teacher Education*, 60(11), 144–152. doi: 10.1016/j.tate.2016.08.012
- Marks, H. M. (2000). Student engagement in instructional activity: Patterns in the elementary, middle, and high school years. *American Educational Research Journal*, 37(1), 153–184. doi: 10.3102/00028312037001153
- Marsh, H. W., Roche, L. A., Pajares, F., & Miller, M. D. (1997). Item specific efficacy judgments in mathematical problem-solving: The danger of standing too close to trees in a forest. *Contemporary Educational Psychology*, 22(3), 363–377. doi: 10.1006/ceps.1997.0942
- Martin, A. J. (2009). Motivation and engagement across the academic life span. A developmental construct validity study of elementary school, high school, and university/college students. *Educational and Psychological Measurement*, 69(5), 794–824. doi: 10.1177/0013164409332214
- Martin, A. J., & Collie, R. J. (2019). Teacher–student relationships and students’ engagement in high school: Does the number of negative and positive relationships with teachers matter? *Journal of Educational Psychology*, 111(5), 861–876. doi: 10.1037/edu0000317
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396. doi: 10.1037/h0054346

- Mathews, B. L., Koehn, A. J., Abtahi, M. M., & Kerns, K. A. (2016). Emotional competence and anxiety in childhood and adolescence: A meta-analytic review. *Clinical Child and Family Psychology Review*, 19(2), 162–184. doi: 10.1007/s10567-016-0204-3
- Matsushima, R., & Shiomi, K. (2003). Social self-efficacy and interpersonal stress in adolescence. *Social Behavior and Personality*, 31(4), 323–332. doi: 10.2224/sbp.2003.31.4.323
- McDonald, J. H. (2014). *Handbook of biological statistics* (3rd ed.). Baltimore, MD: Sparky House Publishing.
- McGiboney, G. W. (2016). *The psychology of school climate*. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
- McIver, E. C. (2014). *Examination of the relationship between school climate and other school-based factors and teacher self-efficacy* (Master's Theses), 1207. Louisiana State University. Retrieved August 6, 2018, from [http://digitalcommons.lsu.edu/gradschool\\_theses/1207](http://digitalcommons.lsu.edu/gradschool_theses/1207)
- McMahon, S. D., Parnes, A. L., Keys, C. B., & Viola, J. J. (2008). School belonging among low-income urban youth with disabilities: Testing a theoretical model. *Psychology in the Schools*, 45(5), 387–401. doi: 10.1002/pits.20304
- McMahon, S. D., Wernsman, J., & Rose, D. S. (2009). The relation of classroom environment and school belonging to academic self-efficacy among urban fourth- and fifth-grade students. *Elementary School Journal*, 109(3), 267–281. doi: 10.1086/592307

- Meece, J. L., Herman, P., & McCombs, B. (2003). Relations of learner-centered teaching practices to adolescents' achievement goals. *International Journal of Educational Research*, 39(4–5), 457–475. doi: 10.1016/j.ijer.2004.06.009
- Meristo, M., & Eisenschmidt, E. (2014). Novice teachers' perceptions of school climate and self-efficacy. *International Journal of Educational Research*, 67, 1–10. doi: 10.1016/j.ijer.2014.04.003
- Meyer, B., & Kim, U. (2000, July). *The inter-relationships among German adolescents' self-efficacy, perception of home and school environment, and health*. Poster presented at the 15th International Congress of the International Association for Cross-Cultural Psychology (IACCP), Pultusk, Poland.
- Michelman, B. (2015). A lexicon for educating the Whole Child (and preparing the Whole Adult). *Policy Priorities: An Information Brief from ASCD*, 21(2), 1–7.
- Minter, A., & Pritzker, S. (2015). Measuring adolescent social and academic self-efficacy cross-ethnic validity of the SEQ-C. *Research on Social Work Practice*, 27(7), 818–826. doi: 10.1177/1049731515615677
- Mitchell, M. M., Bradshaw, C. P., & Leaf, P. J. (2010). Student and teacher perceptions of school climate: A multilevel exploration of patterns of discrepancy. *Journal of School Health*, 80(6), 271–279. doi: 10.1111/j.1746–1561.2010.00501.x
- Mitra, D. (2003). Student voice in school reform: Reframing student-teacher relationships. *McGill Journal of Education*, 38(2), 289–304. Retrieved February 15, 2020, from <https://mje.mcgill.ca/article/viewFile/8686/6629>

- Molden, D. C., & Dweck, C. S. (2006). Finding “meaning” in psychology: A lay theories approach to self-regulation, social perception, and social development. *American Psychologist*, 61(3), 192–203. doi: 10.1037/0003-066X.61.3.192
- Morin, A. (2017). Toward a glossary of self-related terms. *Frontiers of Psychology*, 8, 280. doi: 10.3389/fpsyg.2017.00280
- Muris, P. (2001). A brief questionnaire for measuring self-efficacy in youths. *Journal of Psychopathology and Behavioral Assessment*, 23(3), 145–149. doi: 10.1023/A:1010961119608
- Muris, P. (2002). Relationships between self-efficacy and symptoms of anxiety disorders and depression in a normal adolescent sample. *Personality and Individual Differences*, 32(2), 337–348. doi: 10.1016/S0191-8869(01)00027-7
- National Center for Education Statistics (2010). *Programme for International Student Assessment (PISA) results for 2009*. Washington, DC: United States Department of Education.
- National Center for Education Statistics (2018). *Selected findings from PISA 2015, Program for International Student Assessment (PISA)*. Retrieved November 9, 2018, from [https://nces.ed.gov/surveys/pisa/pisa2015/pisa2015highlights\\_1.asp](https://nces.ed.gov/surveys/pisa/pisa2015/pisa2015highlights_1.asp)
- National Center on Safe and Supportive Learning Environments (2019). *Bullying/Cyberbullying. Topics & Research, Safety*. Retrieved March 21, 2019, from <https://safesupportivelearning.ed.gov/topic-research/safety/bullying-cyberbullying>

National Research Council (2012). *Education for life and work: Developing transferable knowledge and skills in the 21st Century*. Committee on Defining Deeper Learning and 21st Century Skills, J.W. Pellegrino and M.L. Hilton (Eds.). Board on Testing and Assessment and Board on Science Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

National Research Council, & Institute of Medicine (2004). *Engaging schools: Fostering high school students' motivation to learn*. Washington, DC: The National Academies Press. doi: 10.17226/10421

National School Climate Council (2007). *The school climate challenge: Narrowing the gap between school climate research and school climate policy, practice guidelines and teacher education policy*. White Paper, National School Climate Center. Retrieved February 10, 2019, from <http://www.schoolclimate.org/climate/documents/policy/school-climate-challenge-web.pdf>

National School Climate Center (2018a). *The 13 dimensions of school climate measured by the CSCI*. Retrieved August 11, 2018, from <https://www.schoolclimate.org/themes/schoolclimate/assets/pdf/measuring-school-climate-csci/CSCIDimensionChart-2017.pdf>

National School Climate Center (2018b). *Measuring school climate (CSCI)*. Retrieved May 25, 2018, from <https://www.schoolclimate.org/services/measuring-school-climate-csci>



- Nelson, R. M., & DeBacker, T. K. (2008). Achievement motivation in adolescents: The role of peer climate and best friends. *Journal of Experimental Education*, 76(2), 170–189. doi: 10.3200/JEXE.76.2.170–190
- Neuville, S., Frenay, M., & Bourgeois, E. (2007). Task value, self-efficacy and goal orientations: impact on self-regulated learning, choice and performance among university students. *Psychologica Belgica*, 47(1), 95–117. doi: 10.5334/pb-47-1-95
- Nimon, K., Zientek, L. R., & Henson, R. K. (2012). The assumption of a reliable instrument and other pitfalls to avoid when considering the reliability of data. *Frontiers of Psychology*, 3(102), 1–27. doi: 10.3389/fpsyg.2012.00102
- O'Brennan, L., Bradshaw, C., & Johns Hopkins Center for the Prevention of Youth Violence (2013). *Importance of school climate: Research brief*. National Education Association. Retrieved September 9, 2018, from <http://cite-seerx.ist.psu.edu/viewdoc/download?doi=10.1.1.643.2526&rep=rep1&type=pdf>
- Office of Safe and Healthy Schools (2018, October). *School climate survey compendia*. National Center on Safe and Supportive Learning Environments. Retrieved November 22, 2018, from <https://safesupportivelearning.ed.gov/topic-research/school-climate-measurement/school-climate-survey-compendium>
- Organization for Economic Cooperation and Development (2005). *The definition and selection of key competencies: Executive summary*. Paris, France: OECD Publishing. Retrieved June 22, 2019, from <https://www.oecd.org/pisa/35070367.pdf>

Organization for Economic Cooperation and Development (2007). *OECD Economic Surveys: United States* (Vol. 2007/9). Paris, France: OECD Publishing.

Organization for Economic Cooperation and Development (2009). Key factors in developing effective learning environments: Classroom disciplinary climate and teachers' self-efficacy. In *Creating Effective Teaching and Learning Environments: First Results from TALIS* (pp. 219–257). Paris, France: OECD Publishing. Retrieved July 9, 2018, from <https://www.oecd.org/berlin/43541692.pdf>

Organization for Economic Cooperation and Development (2017). *PISA 2015 results (Volume III): Students' wellbeing*. Paris, France: OECD Publishing. doi: 10.1787/9789264273856-en

Owens, J. (2011). An introduction to critical realism as a meta-theoretical research perspective. Working paper, *Centre for Public Policy Research Working Paper Series*. London, UK: Centre for Public Policy Research, King's College London. Retrieved October 1, 2018, from <http://www.kcl.ac.uk/sspp/departments/education/research/cppr/workingpapers/Paper-1.pdf>

Paciello, M., Ghezzi, V., Tramontano, C., Barbaranelli, C., & Fida, R. (2016). Self-efficacy configurations and wellbeing in the academic context: A person-centred approach. *Personality and Individual Differences*, 99, 16–21. doi: 10.1016/j.paid.2016.04.083

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research*, 66(4), 543–578. Retrieved January 3, 2020, from <https://www.uky.edu/~eushe2/Pajares/Pajares1996RER.pdf>

- Pajares, F. (2002). *Overview of social cognitive theory and of self-efficacy*. Retrieved December 20, 2018, from <http://www.uky.edu/~eushe2/Pajares/eff.html>
- Pajares, F. (2005). Self-efficacy during childhood and adolescence: Implications for teachers and parents. In T. C. Urdan & F. Pajares (Eds.), *Self-efficacy beliefs of adolescents* (pp. 339–367). Charlotte, NC: Information Age Publishing.
- Pajares, F., & Miller, M. D. (1995). Mathematics self-efficacy and mathematics performances: The need for specificity of assessment. *Journal of Counseling Psychology*, 42(2), 190–198. doi: 10.1037/0022-0167.42.2.190
- Pajares, F., & Schunk, D. H. (2001). Self-beliefs and school success: Self-efficacy, self-concept, and school achievement. In R. Riding & S. Rayner (Eds.), *Self-perception* (pp. 239–266). London, UK: Ablex Publishing.
- Payne, A. A. (2018). *Creating and sustaining a positive and communal school climate: Contemporary research, present obstacles, and future directions*. National Institute of Justice Report, Office of Justice Programs. Retrieved February 4, 2019, from <https://www.ncjrs.gov/pdffiles1/nij/250209.pdf>
- Pedditzi, M. L. (2014). Motivation to learn: Achievement goals, self-efficacy and classroom social climate in secondary school. *International Journal of School Cognitive Psychology*, 1(3), 114–119. doi: 10.4172/2469-9837.1000114
- Pedditzi, M. & Marcello, P. (2018). School social context, students' self-efficacy and satisfaction in high school. *The Open Psychology Journal*, 11, 249–260. doi: 10.2174/1874350101811010249

- Petrides, K. V., & Furnham, A. (2001). Trait emotional intelligence: Psychometric investigation with reference to established trait taxonomies. *European Journal of Personality, 15*(6), 425–448. doi: 10.1002/per.416
- Petrides, K. V., Pérez-González, J. C., & Furnham, A. (2007). On the criterion and incremental validity of trait emotional intelligence. *Cognition and Emotion, 21*(1), 26–55. doi: 10.1080/02699930601038912
- Petrides, K., Sangareau, Y., Furnham, A., & Frederickson, N. (2008). Chapter 4: Trait emotional intelligence and children's peer relations at school. *Counterpoints, 336*, 63–76.
- Pianta, R. C., Hamre, B. K., & Allen, J. P. (2012). Teacher-student relationships and engagement: Conceptualizing, measuring, and improving the capacity of classroom interactions. In *Handbook of research on student engagement* (pp. 365–386). New York, NY: Springer.
- Pintrich, P., & Schunk, D. (1996). *Motivation in education: Theory, research & applications*. Englewood Cliffs, NJ: Prentice-Hall.
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology, 63*, 539–569. doi: 10.1146/annurev-psych-120710-100452
- Pool, L. D., & Qualter, P. (2012). Improving emotional intelligence and emotional self-efficacy through a teaching intervention for university students. *Learning and Individual Differences, 22*, 306–312. doi: 10.1016/j.lindif.2012.01.010

- Preiss, R. W., Gayle, B. M., & Allen, M. (2006). Test anxiety, academic self-efficacy, and study skills: A meta-analytic review. In B. M. Gayle, R. W. Preiss, N. Burrell, M. Allen, B. M. Gayle, R. W. Preiss, ... M. Allen (Eds.), *Classroom communication and instructional processes: Advances through meta-analysis* (pp. 99–111). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Qualter, P., Pool, L., Gardner, K., Ashley-Kot, S., Wise, A., & Wols, A. (2015). The Emotional Self-Efficacy Scale: Adaptation and validation for young adolescents. *Journal of Psychoeducational Assessment*, 33(1), 33–45. doi: 10.1177/0734282914550383
- Ramelow, D., Currie, D., & Felder-Puig, R. (2015). The assessment of school climate: Review and appraisal of published student-report measures. *Journal of Psychoeducational Assessment*, 33(8), 731–743. doi: 10.1177/0734282915584852
- Ransford, C. R., Greenberg, M. T., Domitrovich, C. E., Small, M., & Jacobson, L. (2009). The role of teachers' psychological experiences and perceptions of curriculum supports on the implementation of a social and emotional learning curriculum. *School Psychology Review*, 38(4), 510–532. Retrieved February 14, 2020, from [https://www.researchgate.net/publication/279695919\\_The\\_role\\_of\\_teachers'\\_psychological\\_experiences\\_and\\_perceptions\\_of\\_curriculum\\_supports\\_on\\_the\\_implementation\\_of\\_a\\_social\\_and\\_emotional\\_curriculum](https://www.researchgate.net/publication/279695919_The_role_of_teachers'_psychological_experiences_and_perceptions_of_curriculum_supports_on_the_implementation_of_a_social_and_emotional_curriculum)

- Raphael, J. (2017). School climate: The possible reason for educational stress of aided school students of Kerala. *International Journal of Research*, 4(6). Retrieved June 9, 2018, from <https://internationaljournalofresearch.com/tag/types-of-school-climate/>
- Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin*, 138(2), 353–87. doi: 10.1037/a0026838
- Ritter, N. (2010). Understanding a widely misunderstood statistic: Cronbach's  $\alpha$ . Paper presented at the annual meeting of the Southwest Educational Research Association. New Orleans, LA. February 18, 2010. Online submission. Retrieved January 3, 2020, from <https://files.eric.ed.gov/fulltext/ED526237.pdf>
- Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin*, 130(2), 261–288. doi: 10.1037/0033-2909.130.2.261
- Robinson, M. A. (2017). Using multi-item psychometric scales for research and practice in human resource management. *Human Resource Management*, 57(3), 739–750. doi: 10.1002/hrm.21852
- Roehlkepartain, E. C., Pekel, K., Syvertsen, A. K., Sethi, J., Sullivan, T. K., & Scales, P. C. (2017). *Relationships first: Creating connections that help young people thrive*. Minneapolis, MN: Search Institute.

- Roeser, R. W., Midgley, C. M., & Urdan, T. C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of Educational Psychology*, 88(3), 408–422. doi: 10.1037/0022-0663.88.3.408
- Rothman, A. J. (2004). Is there nothing more practical than a good theory?: Why innovations and advances in health behavior change will arise if interventions are used to test and refine theory. *International Journal of Behavioral Nutrition and Physical Activity*, 1(1), 1–11. doi: 10.1186/1479-5868-1-11
- Rudasill, K. M., Snyder, K. E., Levinson, H., L., & Adelson, J. (2017). Systems view of school climate: A theoretical framework for research. *Educational Psychology Review*, 30, 35–60. doi: 10.1007/s10648-017-9401-y
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54–67. doi: 10.1006/ceps.1999.1020
- Ryff, C. D., Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69(4), 719–727. doi: 10.1037/0022-3514.69.4.719
- Saarni, C. (1999). *The development of emotional competence*. New York, NY: Guilford Press.
- Salkind, N. J. (2010). *Encyclopedia of research design*. Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781412961288

- Scholz, U., Doña, B. G., Sud, S., & Schwarzer, R. (2002). Is General Self-Efficacy a universal construct? *European Journal of Psychological Assessment*, 18(3); 242–251. doi: 10.1027//1015-5759.18.3.242
- Schunk, D. H. (1995). Self-efficacy and education and instruction. In J. E. Maddux (Ed.), *Self-efficacy, adaptation, and adjustment: Theory, research, and application* (pp. 281–303). New York, NY: Plenum Press.
- Schunk, D. H., & DiBenedetto, M. K. (2016). Self-efficacy theory in education. In K. R. Wentzel, & D. B. Miele (Eds.), *Handbook of Motivation at School* (2nd ed.) (pp. 34–54). New York, NY: Routledge.
- Schunk, D. H., & Meece, J. L. (2005). Self-efficacy development in adolescence. In T. C. Urdan & F. Pajares (Eds.), *Self-efficacy beliefs of adolescents* (pp. 71–96). Charlotte, NC: Information Age Publishing.
- Schunk, D. H., & Miller, S. D. (2002). Self-efficacy and adolescents' motivation. In F. Pajares & T. Urdan (Eds.), *Academic motivation of adolescents* (pp. 29–52). Greenwich, CT: Information Age.
- Schunk, D. H., & Pajares, F. (2002). The development of academic self-efficacy. In A. Wigfield & J. Eccles (Eds.), *Development of achievement motivation* (pp. 15–31). San Diego, CA: Academic Press. doi: 10.1016/B978-012750053-9/50003-6
- Schunk, D. H., & Zimmerman, B. J. (2007). Influencing children's self-efficacy and self-regulation of reading and writing through modeling. *Reading and Writing Quarterly*, 23(1), 7–25. doi: 10.1080/10573560600837578
- Schwarzer, R., & Born, A. (1997). Optimistic self-beliefs: Assessment of general perceived self-efficacy in thirteen cultures. *World Psychology*, 3(1–2), 177–190.



- Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The self-efficacy scale: Construction and validation. *Psychological Reports, 51*(2), 633–671. doi: 10.2466/pr0.1982.51.2.663
- Smith, H. M., & Betz, N. E. (2000). Development and validation of a scale of perceived social self-efficacy. *Journal of Career Assessment, 8*(3), 283–301. doi: 10.1177/106907270000800306
- Smith, H. M., & Betz, N. E. (2002). An examination of efficacy and esteem pathways to depression in young adulthood. *Journal of Counseling Psychology, 49*(4), 438–448. doi: 10.1037/0022-0167.49.4.438
- Stajkovic, A. D., & Sommer, S. M. (2000). Self-efficacy and causal attributions: Direct and reciprocal links. *Journal of Applied Social Psychology, 30*(4), 707–737. doi: 10.1111/j.1559-1816.2000.tb02820.x
- Steinberg, L., Brown, B. B., & Dornbusch, S. M. (1996). *Beyond the classroom: Why school reform has failed and what parents need to do*. New York, NY: Touchstone, Simon & Schuster.
- Stewart, K. (2014). *The mediating role of classroom social environment between teacher Self-efficacy and student adjustment* (Doctoral dissertation). University of South Florida Scholar Commons. Retrieved January 28, 2019, from <http://scholarcommons.usf.edu/cgi/viewcontent.cgi?article=6512&context=etd>

- Strauss, V. (2015, March 10). No Child Left Behind: What standardized test scores reveal about its legacy. Answer Sheet, *The Washington Post*. Retrieved July 30, 2018, from [https://www.washingtonpost.com/news/answer-sheet/wp/2015/03/10/no-child-left-behind-what-standardized-test-scores-reveal-about-its-legacy/?utm\\_term=.ce59e063530b](https://www.washingtonpost.com/news/answer-sheet/wp/2015/03/10/no-child-left-behind-what-standardized-test-scores-reveal-about-its-legacy/?utm_term=.ce59e063530b)
- Suldo, S. M., & Shaffer, E. J. (2007). Evaluation of the Self-Efficacy Questionnaire for Children in two samples of American adolescents. *Journal of Psychoeducational Assessment*, 25(4); 341–355. doi: 10.1177/0734282907300636
- Sullivan, L. M., Weinberg, J., & Keaney, J. F., Jr (2016). Common statistical pitfalls in basic science research. *Journal of the American Heart Association*, 5(10), e004142. doi: 10.1161/JAHA.116.004142
- Sutton Jr., J. M., & Fall, M. (1995). The relationship of school climate factors to counselor self-efficacy. *Journal of Counseling & Development*, 73(3), 331–336. doi: 10.1002/j.1556-6676.1995.tb01759.x
- Tabachnick, B. G., & Fidell, L. S. (2014). *Using multivariate statistics*. Essex: England. Pearson Education Limited.
- Taylor, R., Oberle, E., Durlak, J.A., & Weissberg, R.P. (2017). Promoting positive youth development through school-based social and emotional learning interventions: A meta-analysis of follow-up effects. *Child Development*, 88(4), 1156–1171. doi: 10.1111/cdev.12864
- Thapa, A., Cohen, J., Higgins-D'Alessandro, A., & Guffy, S. (2013). School climate research summary. *Review of Educational Research*, 83(3), 357–385. doi: 10.3102/0034654313483907

- The Nation's Report Card (2018). *2015: Mathematics & reading at grade 12*. The National Assessment of Educational Progress (NAEP). Retrieved October 19, 2018, from [https://www.nationsreportcard.gov/reading\\_math\\_g12\\_2015/#/](https://www.nationsreportcard.gov/reading_math_g12_2015/#/)
- Trochim, W. M., Donnelley, J. P., & Arora, K. (2016). *Research methods: The essential knowledge base* (2nd ed.). Boston, MA: Cengage.
- Tsang, S. K. M., Hui, E. K. P., & Law, B. C. M. (2012). Self-efficacy as a positive youth development construct: A conceptual review. *The Scientific World Journal*, 2012, 1–7. Article ID 452327. doi: 10.1100/2012/452327
- Tudge, J. R. H., Mokrova, I., Hatfield, B. E., & Karnik, R. B. (2009). Uses and misuses of Bronfenbrenner's bioecological theory of human development. *Journal of Family Theory & Review*, 1(4), 198–210. doi: 10.1111/j.1756–2589.2009.00026.x
- Urdan, T., & Midgley, C. (2003). Changes in the perceived classroom goal structure and pattern of adaptive learning during early adolescence. *Contemporary Educational Psychology*, 28(4), 524–551. doi: 10.1016/S0361–476X(02)00060–7
- U.S. Department of Education (2018). *Technical and administration user guide for the ED School Climate Surveys (EDSCLS)*. Washington DC: Office of Safe and Healthy Students. Retrieved January 11, 2019, from [https://safesupportivelearning.ed.gov/sites/default/files/EDSCLS%20UserGuide\\_06202017.pdf](https://safesupportivelearning.ed.gov/sites/default/files/EDSCLS%20UserGuide_06202017.pdf)
- Usher, E. L., & Pajares, F. (2008). Sources of self-efficacy in school: Critical review of the literature and future directions. *Review of Educational Research*, 78(4), 751–796. doi: 10.3102/0034654308321456

- Uwah, C. J., McMahon, H. G., & Furlow, C. F. (2008). School belonging, educational aspirations, and academic self-efficacy among African American male high school students: Implications for school counselors. *Professional School Counseling, 11*(5), 296–305. doi: 10.5330/PSC.n.2010–11.296
- Valois, R. F., Umstattd, M. R., Zullig, K. J., & Paxton, R. J. (2008). Physical activity behaviors and emotional self-efficacy: Is there a relationship for adolescents? *Journal of School Health, 78*(6), 321–327. doi: 10.1111/j.1746–1561.2008.00309.x
- Valois R. F., & Zullig, K. J. (2013). Psychometrics of a brief measure of emotional self-efficacy among adolescents from the United States. *Journal of School Health, 83*(10), 704–711. doi: 10.1111/josh.12084
- Valois, R. F., Zullig, K. J., & Hunter, A. (2015). Association between adolescent suicide ideation, suicide attempts and emotional self-efficacy. *Journal of Child and Family Studies, 24*(2), 237–248. doi: 10.1007/s10826–013–9829–8
- Valois R. F., Zullig, K. J., & Kammermann, S. K. (2013). Relationships between adolescent sexual risk behaviors and emotional self-efficacy. *American Journal of Sex Education, 8*(1–2), 36–55. doi: 10.1080/15546128.2013.790224
- Van Kleef, G. A. (2016). *The interpersonal dynamics of emotion: Toward an integrative theory of emotions as social information*. Cambridge, UK: Cambridge University Press.

- Vieno, A., Santinello, M., Pastore, M., & Perkins, D. (2007). Social support, sense of community in school, and self-efficacy as resources during early adolescence: An integrative model. *American Journal of Community Psychology*, 39(1–2), 177–190. doi: 10.1007/s10464-007-9095-2
- Walker, C. O., Greene, B. A., & Mansell, R. A. (2006). Identification with academics, intrinsic/extrinsic motivation, and self-efficacy as predictors of cognitive engagement. *Learning and Individual Differences*, 16(1), 1–12. doi: 10.1016/j.lindif.2005.06.004
- Wang, M.-T. M., & Degol, J. L. (2015). School Climate: A review of the construct, measurement, and impact on student outcomes. *Educational Psychology Review*, 28(2), 315–352. doi: 10.1007/s10648-015-9319-1
- Warner, R. M. (2013). *Applied statistics: From bivariate through multivariate techniques* (2nd ed.). Los Angeles, CA: Sage Publications, Inc.
- Wells, C. S., & Wollack, J. A. (2003). *An instructor's guide to understanding test reliability*. Madison, WI: Testing and Evaluation Service, University of Wisconsin, Madison. Retrieved January 17, 2020, from <https://testing.wisc.edu/Reliability.pdf>
- Weinberger, E. & McCombs, B. L. (2003). Applying the LCPs to High School Education. *Theory Into Practice*, 42(2), 117–126. doi: 10.1207/s15430421tip4202\_5

- West, M. R. (2016, March 17). Should non-cognitive skills be included in school accountability systems? Preliminary evidence from California's CORE districts. *Economic Studies at Brookings: Evidence Speaks Reports*, 1(13). Retrieved July 14, 2018, from <https://www.brookings.edu/wp-content/uploads/2016/07/EvidenceSpeaksWest031716.pdf>
- Whitehurst, G. J. (2016). Hard thinking on soft skills. *Economic Studies at Brookings: Evidence Speaks Reports*, 1(14). Retrieved May 24, 2018, from <https://www.brookings.edu/wp-content/uploads/2016/07/Download-the-paper2.pdf>
- Wigfield, A., & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology*, 25(1), 68–81. doi: 10.1006/ceps.1999.1015
- Wu, H., & Leung, S.-O. (2017). Can Likert Scales be treated as interval scales? A simulation study. *Journal of Social Service Research*, 43(4), 527–532. doi: 10.1080/01488376.2017.1329775
- Wu, S. Y., Wang, S. T., Liu, E. Z. F., Hu, D. C., & Hwang, W. Y. (2012). The influences of social self-efficacy on social trust and social capital—A case study of Facebook. *The Turkish Online Journal of Educational Technology*, 11(2), 246–254.
- Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal*, 29(3), 663–676.
- Zimmerman, B. J., & Martinez-Pons, M. (1990). Student differences in self-regulated learning: Relating grade, sex and giftedness to self-efficacy strategy use. *Journal of Educational Psychology*, 82(1), 51–59. doi: 10.1037/0022-0663.82.1.51

- Zimmerman, B. J., & Schunk, D. (Eds.) (1989). *Self-regulated learning and academic achievement: Theory, research, and practice*. New York, NY: Springer.
- Zullig, K. J., Koopman, T. M., Patton, J. M., & Ubbes, V. A. (2010). School climate: Historical review, instrument development, and school assessment. *Journal of Psychoeducational Assessment* 28(2), 139–152. doi: 10.1177/0734282909344205
- Zullig, K. J., Teoli, D. A., & Valois, R. F. (2014). Relationship between emotional self-efficacy and substance use behaviors in adolescents. *Journal of Drug Education*, 44(1–2), 51–66. doi: 10.1177/0047237915573526