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An Exploratory Analysis of the Student Connections Survey in Rhode Island

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AN EXPLORATORY ANALYSIS OF THE STUDENT CONNECTIONS SURVEY IN RHODE ISLAND

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Abstract

The purpose of this study was to complete a data-driven exploratory analysis of integrated data from the Connections Project collected across several school sites during the 2016-2017 academic school year. Using data from 1,309 middle school and high school students in Rhode Island, the study examined the relationship between student connectedness with adults and peers and student outcome variables commonly assessed in schools across the U.S., namely tardy arrivals, attendance, disciplinary referrals, and failed courses.

Results indicated that students with higher levels of perceived connectedness to adults and peers in their school building had more positive school outcomes. Specifically, students with higher levels of connectedness had fewer instances of disciplinary referrals and fewer failed courses when compared to peers with lower levels of perceived connectedness. Further, students who named their advisory teacher as an adult connection had fewer instances of tardy arrivals, absences, and failed courses. However, student-perceived connectedness was not a significant predictor of drop-out risk. Implications for practice and research with the Connections Project are discussed.

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CHAPTER 1

Introduction

Baumeister and Leary (1995) described feelings of connectedness and social belonging as a fundamental human need. In examining feelings of belonging in schools, social belonging has been referred to using various terms including school engagement, school bonding, school attachment, and school connectedness (Libbey, 2004; Shochet, Dadds, Ham, & Montague, 2006). Across the plethora of definitions for the construct of school connectedness (Blum, 2005; Center for Disease Control, 2009a; Gillen-O'Neal & Fuligni, 2013; Goodenow, 1993; Sulkowski, Demaray, & Lazarus, 2012), there are three key elements: connectedness to adults in the school, connectedness to peers in the school, and connectedness to the school itself (Lohmeier & Lee, 2011). For the purposes of this study, the CDC (2009a) definition of school connectedness, which states that it is "the belief by students that adults and peers in the school care about their learning as well as about them as individuals," will be used.

Feelings of school connectedness are not unique to one developmental period, and are salient across all students, from preschool to post-doctoral settings (Lohmeier & Lee, 2011). Most research on school connectedness has focused on the transitions to and from middle school, as this time is seen as critical to the remainder of students' academic careers (Tillery, Varjas, Roach, Kuperminc, & Meyers, 2013; Appendix A). Indeed, it is common for feelings of school connectedness to decline in middle school years (Gillen-O'Neel & Fuligni, 2013; Monahan, Oesterle, & Hawkins, 2010; O'Brennan & Furlong, 2010). Research on the stability of school connectedness over time has yielded inconsistent results. Gillen-O'Neal and Fuligni (2013) report that feelings of

connectedness tend to increase again when students reach secondary school. Other researchers, such as Monahan, Oesterle, and Hawkins (2010), report that by high school, as many as 40% to 60% of all youth report feeling disconnected from school across urban, suburban, and rural settings. Additional research is needed to examine school level differences in school connectedness. Presently, results have been inconclusive, though they do show clear differences based on grade level (O'Brennan & Furlong, 2010).

Adult Connections

Student connectedness to teachers and adults has long been heralded as an important factor in the demonstration of positive student outcomes. For example, Metz (1983) reported that one of the most frequently mentioned reasons students gave for leaving school prior to graduation was poor relationships with teachers (as cited by Davis & Dupper, 2004). In addition to these consequences, teacher connectedness has also been linked as a protective factor for initiation of health risk behavior, including smoking, escalation of smoking, suicidal attempts, and age of first intercourse (McNeely & Falci, 2004). It is important to note that all adults (i.e., lunch personnel, janitorial staff, coaches, etc.) in a school building are important components of school connectedness, not just teachers and administrative staff (Blum, 2005).

Perception of Support. Perception of teacher support may have more powerful effects on student outcomes than the actual level of support teachers provide. Murray, Murray, and Waas (2008) investigated self-reported child and teacher perceptions of teacher-child relationships among kindergarten students of color in a large urban district. Using the *My Family and Friends – Teacher* (MFF-T) and *My Family and Friends – Child* (MFF-C) measures, teachers and students reported on the child's perceptions of the

child-teacher connection. Additional information was gathered regarding the child's school adjustment through teacher reports and self-reports from the child. Results showed minimal concordance between teacher and child reports of perceptions of teacher support. The children who reported greater perceived support from teachers also reported greater school liking on the school adjustment scale than children with lower levels of perceived support. The authors discuss the need to utilize methodology that provides a more direct test of child versus teacher perceptions. At present, no data are available on student perceptions of teacher support beyond elementary school. The current study examined student perceptions of teacher support during middle school and secondary school.

Advisory. Increasingly, secondary schools in the U.S. are employing an advisory system. An advisory program is a school scheduling configuration in which an adult meets with a group of students regularly during school hours to provide mentorship, to create personalization within the school, and to form a peer community of learners (Shulkind & Foote, 2009; Appendix A). To provide empirical evidence on the effectiveness of advisory programs, Shulkind and Foote (2009) conducted a mixed-methods study using questionnaires and focus groups to define the qualities of successful advisory programs and advisors that foster school connectedness. The authors found seven key characteristics of effective advisors and advisory programs. Strong advisory programs address issues of community, promote open communication, create perceived student-advisor connections that directly improve academic performance, and create the perception that advisory functions as a community of learners. Additionally, successful advisors know and care about their advisees, closely supervise advisees' academic performance, and act as problem-solvers for their students. Further, students who

reported the highest levels of connectedness shared that advisory provided a way to bond students, and they perceived links between their academic performance and advisory.

In order to test student connectedness to advisors, Van Ryzin (2010) recruited 209 students at two small secondary schools to participate in a study examining attachment hierarchy. The author instructed students to complete the Attachment Network Questionnaire (ANQ; Trinke & Bartholomew, 1997), which asks participants to nominate the person or persons that play an attachment-related role (e.g., a safe haven to relieve stress in difficult situations). Data were also gathered on students' closeness with their advisor, security with their advisor, school engagement, perceptions of support from peers, and academic achievement. Overall, 40.7% of students nominated their advisors as a secondary attachment figure in their attachment hierarchy; their mother and best friend were the most frequently cited otherwise. Students who nominated their advisor also reported more engagement in school. In order to reinforce the role of advisory in facilitating adult connections in the school environment, these results must be replicated across various student populations.

Peer Connections

Buchanan and Bowen (2008) sought to improve the understanding of student connectedness by examining the additive and moderating influence of peer support beyond adult support on the psychological well-being of adolescent students. A large sample of middle school students (n = 13,843) completed the School Success Profile (SSP; Bowen & Richmond, 2001), a 220-item survey assessing students' social environments, health, and well-being. Additional demographic data, including gender, racial or ethnic group, and grade level, were gathered. The SSP contains scales for adult

support, peer support, and student psychological well-being. After taking demographic data into consideration, the results indicated that the most significant variable on students' psychological well-being was adult support, followed by peer support.

More recently, De Laet et al. (2015) examined the longitudinal effects of teacher relationships and peer relationships on student behavioral engagement. In this study, Belgian elementary school children (n = 586) completed measures of behavioral engagement (i.e., on-task behavior, homework attitude, and attention in the classroom), teacher-child support, teacher-child conflict, peer acceptance, peer popularity, and physical and relational aggression in three data waves from grade four to grade six. Results showed that peer relationships mattered above and beyond the effect of teacher-child relationships. Behavioral engagement was positively associated with teacher-child support and peer acceptance, while it was negatively associated with teacher-child conflict and peer popularity.

A secondary goal of De Laet et al. was to examine the normative development of behavioral engagement, teacher support, and teacher conflict. The results showed a general trend of decline in behavioral engagement, decline in teacher-child support, and an increase in teacher-child conflict over time. From grade four to grade six, children with fewer declines in teacher-child support also had fewer declines in behavioral engagement. Furthermore, children who were endorsed as being more physically aggressive had less initial teacher-child support and peer acceptance, more initial teacher-child conflict and peer popularity, and a greater decrease in engagement over time. The present study will examine behavioral engagement at the school level (i.e., number of

tardy arrivals, number of absences, number of failed courses, and number of disciplinary referrals).

Correlates of School Connectedness

The current study addresses the relationship between student-perceived connectedness and known correlates of connectedness cited in the literature, including student disability status, socioeconomic status, tardy arrivals, attendance, disciplinary referrals, number of failed courses, and student dropout risk.

Mental Health. The National Longitudinal Study of Adolescent Health (Add Health) collected data on more than 36,000 7th grade to 12th grade students nationwide to investigate adolescents' health and risk behavior trajectories over time. A large body of research has emerged from this data, including an examination of the relationship between student connectedness and mental health outcomes (Loukas, Ripperger-Suhler, & Horton, 2009; McNeely & Falci, 2004; Wormington et al, 2016). Contained within the Add Health survey is a five-item measure of school belonging. Items include: "I feel close to people at this school"; "I am happy to be at this school"; "I feel like I am a part of this school"; "The teachers at this school treat students fairly"; and "I feel safe at this school." Additional measures, including the California Healthy Kids Survey, have utilized these same items (O'Brennan & Furlong, 2010).

Using Add Health data, connectedness has been found to be the strongest protective factor for decreases in substance use, early sexual initiation, violence, and risk of unintentional injury across girls and boys (CDC, 2009a). Further, connectedness is negatively related to the development of conduct problems, engagement in substance use, antisocial and violent behavior, depression, anxiety, emotional distress, and suicidality

(Lohmeier & Lee, 2011; Sulkowski, Demaray, & Lazarus, 2012). In fact, the CDC has promoted "building and strengthening connectedness or social bonds within and among persons, families, and communities" as a prevention strategy for suicidal behavior (CDC, 2008, p. 1).

Vulnerable Populations. School connectedness may be especially important to foster in students from vulnerable at-risk populations, such as LGBTQ students, students with disabilities (e.g., identified status, Appendix A), students with physical or mental health problems, and students who live in poverty (CDC, 2009a; Sulkowski et al, 2012; Tillery et al, 2013). Niehaus, Rudasill, and Rakes (2012) completed a longitudinal study on school connectedness and student outcomes, focusing specifically on sixth grade students from low-income backgrounds in urban schools. The authors adapted their measurement of school connectedness from the National Educational Longitudinal Study, the Need Satisfaction Scale, and the Scale of Caring Adults to form two factors. The two factors were student perceptions of relationship strength with all school adults, and student perceptions of the degree to which teachers in the school care about students and students' sense of support in school. Income status was determined by the student's free or reduced lunch status. Results indicated that students began the school year feeling connected to an average of 2.2 adults. Students' perceptions of school support declined significantly across grade six regardless of gender or school attended. In turn, these declines were associated with lower grade point averages. Further inquiry should address the differences in school belonging between students from low-income backgrounds and their more economically-privileged peers.

Similarly, Doren, Murray, and Gau (2014) examined the predictors of school dropout for high school students with learning disabilities (LD) using a nationally-representative sample of 13-17 year old students. Twenty-six predictors across four domains (e.g., sociodemographic, individual, family, and school-based factors) were examined. The final multivariate model indicated that grades, risk behaviors, parent expectations, and the quality of students' relationships (i.e., getting along with teachers and other students) remained salient predictors to school dropout among students with LD. Perceived quality of students' relationships were measured using the sum of two items, "gets along with teachers" and "gets along with other students," on a four-point scale (1 = not at all well; 2 = not very well; 3 = pretty well; and 4 = very well). Given the increased dropout risk among students with disabilities and the importance of positive relationships with teachers and peers, student connectedness should be considered in models of dropout risk and monitoring student outcomes. One aim of the present study was to examine differences in connectedness based on SES (using free and reduced lunch status as a proxy) and differences in connectedness based on disability status in the school environment.

Student Outcomes. Besides its association to mental health, the relationship between school connectedness and student outcomes has been widely studied. In her literature review of student relationships to schools, Libbey (2004) found that across all studies, connectedness was highly related with positive student outcomes, both academically and behaviorally. School connectedness is positively correlated with classroom test scores, grades earned, academic motivation, academic self-efficacy, and student engagement (CDC, 2009b; Klem & Connell, 2004; Niehaus et al, 2012).

Considerably less research has been done on the relationship between school connectedness and behavioral outcomes, such as disciplinary referrals or school suspensions (i.e., De Laet et al, 2015). Further, the formation of interpersonal relationships in the school building is an important factor in school retention, dropout prevention, and graduation rates (Davis & Dupper, 2004; Doll, 2010; Sulkowski et al, 2012).

The dropout prevention literature indicates that differences exist between high school dropouts and graduates as early as kindergarten in areas such as academics, problem behavior, and family factors (Hickman, Bartholomew, Mathwig, & Heinrich, 2008). These differences can be stark among students from vulnerable populations, particularly students with disabilities and low-income students (Balfanz & Byrnes, 2012). Long term negative outcomes associated with school dropout include lower average income, higher rates of unemployment, increased likelihood of being incarcerated, and death at a younger age (Schoenberger, 2012).

While there has been increased concern regarding school dropout and its deleterious effects, research has only begun to study early indicators of school dropout longitudinally (Schoenberger, 2012). McKee and Caldarella (2016) argue that risk factors can be considered in two categories: social (e.g., race, ethnicity, gender, and socioeconomic status) and academic (e.g., prior academic performance, course grades, and test performance). In recent years, several states and districts have developed early warning systems (EWS) to identify at-risk students in middle and high school with the intention of designing and implementing interventions to keep them on track to graduate (Frazelle & Nagel, 2013). EWSs use student-level data as indicators of student progress

toward graduation. An effective EWS should utilize indicators and thresholds that have been verified in the local context in which the system is being used. Given the statistical knowledge needed to create localized systems, districts are encouraged to use attendance, behavior incidents, and course performance (the "ABCs") as their base set of indicators when building an EWS (Frazelle & Nagel, 2013). In line with the Response to Intervention framework, tiered systems of intervention are suggested in order to address the complexity of student needs.

As mandated by the Rhode Island Secondary School Regulations, local education agencies are required to monitor and analyze student indicators beginning in grade six and continuing to grade 12 (Rhode Island Department of Education, 2017). In 2012, the Rhode Island Department of Education (RIDE) developed the state's initial early warning system as a tool to identify and intervene with students at-risk of not graduating high school on time or dropping out based on seven years of historical student data from districts across Rhode Island (RIDE, 2013). Using student demographic and performance data as independent variables, the development team completed regression modeling to determine the most salient predictors of on-time graduation for each grade. On-time graduation was represented as a binary dependent variable with students who graduated within four years of entering high school considered on-time graduates and students who took longer than four years were considered non-on-time graduates (RIDE, 2012). Results from the regression models were cross-validated to determine accuracy rates for the grade-based model of on-time graduation. Of the 17 possible indicators, results indicated that the following six indicators were the most robust predictors: 1) attendance, 2) years overage (i.e., the number of years a student is older than the standard age for a

given grade), 3) number of suspensions, 4) New England Common Assessment (NECAP) reading scores, 5) NECAP math scores, and 6) aggregate on-track percentage. The aggregate on-track indicator is an equation that provides a percent likelihood that a student will graduate on-time given the student's current year performance and demographic data, and varies by grade level. It should be noted that although student gender was highly predictive of on-time graduation, this variable was removed from the list of indicators as it is not an "actionable" variable as nothing can be done to change it. Further analyses were used to create benchmarks for each indicator for every individual grade level by calculating the accuracy and scope of each variable in predicting on-time graduation. For an in-depth discussion of the development of the RIDE EWS, refer to RIDE (2012).

The Connections Project

The Connections Screening Development and Evaluation Project (the Connections Project) is an on-going initiative originally developed in 2010 by Kim Pristawa, Marisa Marraccini, and the Burrillville High School RTI Problem-Solving Team, as a pragmatic way to identify secondary students at-risk in the social-emotional domain. The purpose of Connections Screening is to examine students' perceptions of connectedness with adults and peers in the school environment. Under Tier 1 of the Response to Intervention (RTI) framework, all students complete a universal screening measure designed to ascertain the names of adults and peers in the building with whom they feel they have a good personal connection (Appendix A). In conjunction with the student screening measure, teachers and staff also complete a survey wherein they name students in the building whom they feel they have a good personal connection with.

Localized data obtained from the screening measure has been used to target students who may be in need of social-emotional intervention. Presently, there are two middle schools and three high schools involved in the Connections Project. Four of the five schools are located in suburban and rural school districts in the Northeast, while the fifth school is in a suburban district in the upper Midwest.

Individual schools or school districts that participate in the Connections Project are provided assistance and support in implementation from the Connections Project Team. Two primary support people conduct four remote, web-based meetings per academic school year to prepare schools for screening administration, discuss data organization and entry, review data and identify individuals and groups for follow up, and to plan for the following school year. Additionally, a team of graduate students from the University of Rhode Island provides on-site assistance as needed and data support. The team from URI analyzes the de-identified data to provide descriptive statistics as well as correlational analyses to the each individual school's Problem-Solving Team in a consolidated report. It is this project that served as the basis of this thesis project.

Purpose of the Present Study

The purpose of the study was to complete a data-driven exploratory analysis of integrated data from the Connections Project collected over the 2016-2017 academic school year. The research will contribute to the development of the Connections Screening as a valid universal screening measure to be used to examine middle school and secondary students' connectedness to important others in their school community.

The following hypotheses were tested:

1. The presence of adult connections and peer connections will be inversely related to negative school outcome data (i.e., greater tardy arrivals, absences, disciplinary referrals, and failed courses).
2. Students who feel connected to their advisor, regardless of reciprocity, will have more positive school outcomes (i.e., fewer tardy arrivals, absences, disciplinary referrals, and failed courses).

CHAPTER 2

Methods

Participants

The present study of secondary data included 1,309 students and corresponding data from 140 school personnel in their respective school buildings in the state of Rhode Island. Table 1 provides the full complement of data collected about the students, including year of graduation, disability status, and socioeconomic status (free/reduced lunch: FRL). Neither students nor teachers were asked to respond to demographic or personal background questions. No data were collected about gender, race, or ethnicity of students or teachers.

Table 1

Student Characteristics by School Site

	School A		School B		Total	
Variable	N	%	N	%	N	%
Full Sample	556	42.5	753	57.5	1309	100
Year of Graduation						
2017	0	0	153	20.3	153	11.7
2018	0	0	185	24.6	185	14.1
2019	0	0	210	27.9	210	16.0
2020	0	0	205	27.2	205	15.7
2021	199	35.8	0	0	199	15.2
2022	183	33.0	0	0	183	14.0
2023	174	31.2	0	0	174	13.3

Disability Status						
None	452	34.5	603	46.1	1055	80.6
Individualized Education	71	5.4	78	6.0	149	11.4
Program	33	2.5	72	5.5	105	8.0
504 Plan						
Socioeconomic Status						
None	395	71.0	555	73.7	950	72.6
Free/Reduced Lunch Status	161	29.0	198	26.3	359	27.4

Note: See glossary of terms in Appendix A for detailed descriptions of the variables.

Measures

Student information on eight student-level variables were collected from the school database. These included 1) student advisor, 2) year of graduation, 3) qualification for free or reduced lunch (FRL; a measure of socioeconomic status), 4) presence of individualized education program (IEP) or a 504 plan (e.g., disability status), 5) number of tardy arrivals, 6) number of absences, 7) number of disciplinary referrals, and 8) number of failed courses. For the purposes of this study, "student background variables" included year of graduation, student connection to advisor, FRL, and disability status. "Student outcome variables" included number of tardy arrivals, number of absences, number of disciplinary referrals, and number of failed courses. In addition to these student-level variables, students and school personnel completed the Student Connections Survey and the Adult Connections Survey, respectively.

Student Connections Survey. Student perceptions of connectedness were assessed using the Student Connections Survey (SCS; Pristawa, 2010). The SCS is a self-

report survey containing two questions and can be found in Appendix B. The measure asks students to identify the names of one or more adults and peers in the school building with whom they feel they have a good personal connection. A personal connection is defined as "a person you trust, a person that you know cares about you, and a person you feel you can talk to if you have a problem." If a student feels that they genuinely have no connections, they are asked to check the appropriate box at the end of the adult and/or student section. The measure is scored by identifying the number of perceived adult connections (range = 0-3) and the number of perceived peer connections (range = 0-3). Data to support the reliability and validity of the SCS are limited. Ruise (2017) provided evidence for concurrent validity of the SCS in relation to the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001).

Adult Connections Survey. Adult perceptions of connectedness were measured using the Adult Connections Survey (ACS; Pristawa, 2010). The ACS contains one question and can be found in Appendix C. The survey asks school personnel in the school building (including teachers, staff, and support personnel) to provide data regarding student-adult relationships by identifying the names of up to six students with whom they feel they have a good personal connection. Adults are told that these students may be those who seek advice and guidance for personal or academic matters. Instructions to teachers note that the students they name may not necessarily be current students in their classrooms. The measure is scored by identifying the number of perceived student connections for a total score of six possible connections. Adult-perceived connections are tallied for each student and added to the student data as "number of faculty/staff

connections," which can range from zero to seven or more. At present, no studies have examined the psychometric properties of the Adult Connections Survey.

Procedure

The present study uses secondary data from the Connections Screening Data and Evaluation Project (Pristawa & Marraccini, 2013), an on-going project designed to assist school personnel in identifying potentially at-risk students in the social-emotional area of development by examining students' perceptions of connectedness with adults and peers in school. Prior to data collection, the five participating schools signed a participation agreement with the Connections Project. By consenting to the agreement, the schools agreed to allow de-identified data to be used for research purposes with standard Institutional Review Board approval as needed.

Data were collected across the five school sites in the Northeast and the Midwestern regions of the U.S. serving grades six through 12 after the first academic quarter of the 2016-2017 academic school year. The schools complete the screening measures as a part of their universal Tier 1 Response to Intervention (RTI) framework. Approximately 3,500 students and 150 school personnel completed the Connections Screening across all school sites. Subsequent to screening administration, student background variables, student outcome variables, and Connections Screening results were compiled and coded by the schools' data entry person or technological assistant. Data was de-identified at the source.

Prior to study implementation, permission to use data from the Connections Screening Data and Evaluation Project was granted by the project administrator. Additionally, as the data were gathered in public schools, the University of Rhode Island

Institutional Review Board required that permission be gathered from each participating school site. For the present study, school district administrators were contacted and sent a cover letter (Appendix D) that detailed the study goals, risks, and benefits associated with participation. To participate in the study, district administrators signed a letter granting permission to use data gathered through the Connections Project. The methods and procedures of the study, as well as the signed permission letters, were reviewed and approved by the University of Rhode Island Institutional Review Board.

Of the five schools that completed the Connections Screening during the 2016-2017 academic school year, three schools granted district-level authorization to use the existing data for the purposes of this study. School A is a public middle school serving grades six through eight located in a rural district in Northwestern Rhode Island. School B is a public high school serving grades nine through 12 located in the same district as School A. School C is a public high school serving grades nine through 12 located in a suburban district in central Rhode Island. As School C did not complete the Adult Connections Survey and did not provide corresponding student attendance data, the participants were excluded from this study. After excluding individuals from Schools A and B with missing covariates, the final sample size for the present study was 1,309 students.

Subsequent to IRB approval, de-identified data files were obtained from the Connections Project. Data were checked for missing values, discrepancies, and potential errors in data entry. Where discrepancies were found, school data entry persons or technical assistants were contacted for clarification. A variable was created for school code (School A: 100; School B: 200; and School C: 300) to determine if differences

existed between school sites prior to data analysis. Additionally, a variable called "connections risk category" was created based on suggestions for tiered levels of support from the Connections Project to examine differences in student-perceived level of support (Some Adult, Some Peer Connection: 0; Some Adult, No Peer Connection: 1; No Adult, Some Peer Connection: 2; and No Adult or Peer Connection: 3; Pristawa, 2010). To assess differences between students with a perceived connection to their advisory teacher, a variable called "connection to advisor" was formed (No Perceived Connection: 0; Adult-Perceived Connection: 1; Student-Perceived Connection: 2; and Adult- and Student-Perceived Connection: 3). Finally, the variable "student drop-out risk," based on the Rhode Island Early Warning System (EWS), was created to examine the relationship between level of support and drop-out risk (Low Risk: 0; At Risk: 1; Some Risk: 2; and High Risk: 3).

Given the secondary nature of this study, the only variable used in the EWS available for the present study is attendance percentage, which is the number of days the student attended school divided by the number of days enrolled during the school year (RIDE, 2012). It should be noted that measure cut scores for EWS risk categories vary by grade, as attendance effects on-time graduation less in later grades (RIDE, 2012). For example, a "High Risk" attendance percentage category does not exist for students in sixth and seventh grade as attendance effects on-time graduation less in later grades (RIDE, 2012). Further, students in eighth grade are considered to be at high-risk for school drop-out if they have been present less than 76% of school days, whereas 12th graders are considered to be at high-risk for school drop-out if they have been present less than 49% of school days. The complete breakdown of attendance measure cut scores

by grade can be found in Table 2. For the purpose of this study, attendance percentage was calculated by dividing the number of days the student attended school by the number of days in the first quarter (e.g., 45 days).

Table 2.

Early Warning System Attendance Percentage Measure Cut Scores by Grade Level

	Risk Category			
	Low Risk	Some Risk	At Risk	High Risk[a]
Grade	(%)	(%)	(%)	(%)
6	100	87	79	
7	100	88	82	
8	100	88	83	76
9	100	92	89	85
10	100	88	84	78
11	100	82	77	69
12	100	68	61	49

Note: Reprinted from Rhode Island Department of Education (2013). Benchmark levels differ by grade level.

[a] High risk categories do not exist for grades six and seven.

CHAPTER 3

Results

Preliminary Analyses

Data were analyzed using IBM SPSS 24.0. Prior to conducting analyses to address the study hypotheses, descriptive statistics were examined to determine if the data met the assumptions of normality, linearity, and homogeneity of variance. Preliminary analyses revealed that the data did not meet the assumptions of normality, linearity, and heteroscedasticity. Therefore, student outcome data variables (e.g., tardy arrivals, attendance, disciplinary referrals, and failed courses) which contained several zero values, were transformed using the square root method in order to normalize the distribution, similar to McKee and Calderella (2016). After performing square-root transformations, tardy arrivals, absences, and failed courses were in the acceptable range for skewness and kurtosis (|1.0| and <2.0, respectively; Harlow, 2014). However, skewness and kurtosis for disciplinary referrals remained elevated (e.g., 3.62 and 14.76).

In order to assess whether any statistically significant group differences existed between school sites, a multivariate analysis of variance (MANOVA) was used to examine continuous variables across schools (e.g., number of adult connections, number of peer connections, tardy arrivals, number of absences, number of disciplinary referrals, number of failed courses). Results from the MANOVA indicated a significant multivariate effect for the linear relationship between student outcome variables and connectedness on school site, $F(6,1302) = 75.36$, Pillai's trace = .258, $\eta^2 = .258$. Given the significance of the overall MANOVA, univariate effects of the six dependent variables were examined using follow-up ANOVAs. Significant univariate effects were

found for tardy arrivals ($F(2) = 184.27$, $p<.001$), absences ($F(2) = 397$, $p<.001$), disciplinary referrals ($F(2) = 18.97$, $p<.001$), and failed courses ($F(2) = 30.83$, $p<.001$). Secondary students obtained significantly more tardy arrivals ($d = 0.77$), absences ($d = 1.11$), disciplinary referrals ($d = 0.25$), and failed courses ($d = 0.32$). Tardy arrivals and absences have relatively large effect size (i.e., greater than 0.8), while disciplinary referrals and failed courses represent small effect sizes. Historical data available for School A and School B from 2010 to 2015 indicates that students at School B have consistently had more absences and incidents of suspensions than School A (RIDE, 2015); data were not available to inform differences in tardy arrivals and failed courses. Nevertheless, no significant differences existed between middle school students (School A) and secondary school (School B) students' perceived adult connectedness or peer connectedness.

Additionally, a logistic regression was used to examine group differences in categorical variables (e.g., connection to advisor, student connectedness, disability status, and SES) across school sites. As a set, connection to advisor, student connectedness, disability status, and SES showed a significant relationship with school site identification among the sample of 1,309 students across two schools, $\chi^2(8)=25.16$, $p = .001$. The average pseudo R^2 value was 0.02, indicating a small effect size (ES) according to Cohen's guidelines for multivariate ES (Harlow, 2014). For disability status, SES, and student connectedness, the first category was used as the reference category, all of which indicated little to no risk based on the literature (e.g., no identified disability, no qualification for free or reduced lunch, and high levels of connectedness, respectively). Inversely, the last category for connection to advisor (i.e., student- and adult-perceived

connection) was used as the reference category. Two of the four predictors, connection to advisor and student connectedness, significantly predict school site. Odds ratios greater than 1.0 suggest higher odds of being in the high school group, and results less than 1.0 suggest lower odds of being in the high school group. Using the odds ratios and their respective confidence intervals, results suggest that high school students had four times more odds than middle school students of having an adult-perceived connection to their advisor (OR = 4.02, p = .02, 95% CI [1.24, 13.00]). While the overall odds ratio for student connectedness was significant (p = 0.04), only the Some Risk category approached significance (OR = 0.42, p = 0.058, 95% CI [0.16, 1.03]) when compared to the Low Risk category. Descriptive statistics indicate that 2.16% of students in School A fell in the Some Risk category, while only 1.06% of students in School B fell in the Some Risk category. Results are summarized according to the two hypotheses.

Hypothesis 1

Hypothesis 1 stated that the presence of adult connections and peer connections would be inversely related to negative school outcome data. This was addressed in two ways. First, a one-way multivariate analysis of covariance (MANCOVA) was used to assess group differences in student-perceived levels of support (i.e., No Peer Support, No Adult Support; Some Peer Support, No Adult Support; No Peer Support, Some Adult Support; Some Peer Support, Some Adult Support) using student outcome variables as the dependent variables. “Some adult support” and “some peer support” indicated that the student named one or more adult or peer connections. Student SES and disability status were entered as covariates. Due to the apparent violation of the assumption of homoscedasticity as indicated by the Box’s test of equality of covariance matrices, [F(30,

10056.96) = 4.59, p<.001], Pillai's trace was used to evaluate the macro-level results of the MANCOVA as it is more robust against violations than Wilk's Λ (Harlow, 2014).

Results indicated a significant multivariate effect for the combined independent variables after controlling for student SES and disability status, $F(12, 3906) = 6.46$, p<.001, Pillai's trace = 0.58, $\eta^2 = .019$, indicating a small effect size between student levels of support and student outcome variables when controlling for student disability status and SES. Follow-up ANCOVAs were completed to analyze micro-level results. Significant univariate effects were found for disciplinary referrals, $F(1) = 14.76$, p<.001, $R^2 = .033$, and failed courses, $F(1) = 16.14$, p<.001, $R^2 = .036$, indicating that disciplinary referrals and failed courses explained 3.3% and 3.6%, respectively, of the variance with student-perceived levels of support after disability status and SES were taken into consideration. Both of these are considered to have small effect sizes (Harlow, 2014). As there were more than two groups in the independent variable, post hoc tests using the Bonferroni approach were completed. Post hoc tests revealed that lower levels of support (i.e., High Risk: No Adult, No Peer) had significantly higher rates of disciplinary referrals and failed courses when compared to peers with greater levels of support (Table 3).

To further test the first hypothesis, a logistic regression was used to extend the study results from Buchanan and Bowen (2008) to school-based student outcome variables. Student background variables (i.e., disability status and SES) were entered in stage one, followed by number of adult connections, number of peer connections, and the adult connection by peer connection interaction in subsequent stages. Given that attendance percentage was the only Rhode Island Early Warning System variable

available in the data set, each student's attendance data was coded to reflect the level of drop-out risk (i.e., low risk, some risk, at-risk, and high risk) based on the benchmark for their respective grade, which served as the dependent variable.

Table 3

Bonferroni Pairwise Comparisons of Level of Support with Disciplinary Referrals and Failed Courses

Dependent Variable	(I) Level of Support	(J) Level of Support	Mean Difference (I-J)	Sig.[b]	95% Confidence Interval for Difference[b] Lower Bound	Upper Bound
Disciplinary Referrals	High Risk: No Adult, No Peer	Low Risk: Some Adult, Some Peer	.703*	.000	.386	1.020
		Some Risk: Some Adult, No Peer	.580*	.002	.158	1.002
		At Risk: No Adult, Some Peer	.489*	.002	.128	.850
Failed Courses	High Risk: No Adult, No Peer	Low Risk: Some Adult, Some Peer	.788*	.000	.404	1.172
		Some Risk: Some Adult, No Peer	.532*	.036	.021	1.044
		At Risk : No Adult, Some Peer	.448*	.042	.010	.885

Note: The mean difference is significant at the .05 level.
b. Adjustment for multiple comparisons: Bonferroni.

As the majority of students fell in the low drop-out risk category (n = 1,000), drop-out risk was collapsed into two categories, low risk and at-risk (i.e., some risk, at risk, and high risk), as opposed to four categories. For the purpose of this analysis, the

low risk group served as the reference category. Two-tailed Pearson correlations did not reveal any evidence of collinearity among the variables in this analysis. Results indicated that the set of variables, disability status, SES, adult connectedness, peer connectedness, and the adult connectedness by peer connectedness interaction term, significantly related to student drop-out risk, $\chi^2(5) = 14.22$, $p = .01$. The average pseudo R^2 value was 0.01 indicating that differences between groups did not reach substantive significance (i.e., .02) according to Cohen's guidelines for multivariate ES (Harlow, 2014; Sullivan & Feinn, 2012). From an examination of the odds ratios and their respective confidence intervals (Table 4), students in this sample who qualified for free or reduced lunch (FRL) had 1.57 times more odds than students who did not qualify for FRL to be considered at-risk for school drop-out (*OR* = 1.57, $p = 0.001$, 95% CI[1.19, 2.07]). Adult connectedness, peer connectedness, and disability status did not predict school drop-out above and beyond student SES.

Table 4

Summary of Logistic Hierarchical Regression Analysis for Variables Predicting Student Drop-out Risk

Variable	Step 1		Step 2		Step 3		Step 4	
	B	OR	*B*	OR	*B*	OR	*B*	OR
Disability Status (None)								
IEP/504 Plan	.255	1.29	.256	1.29	.245	1.27	.244	1.27
F/R Lunch Status (None)								
Qualifies for FRL	.459	1.58*	.459	1.58*	.453	1.57*	.450	1.57*
Adult Connections			.007	1.01	.022	1.02	.136	1.15

Peer Connections					-.052	.949	.039	1.04
AC X PC							-.047	.954
Constant	-1.36	.26	-1.38	.251	-1.28	.28	-1.48	.23
Pseudo R^2	0.013		0.013		0.014		0.014	

Note: Reference groups are in parentheses. *p <.001.

Hypothesis 2

It was hypothesized that students who felt connected to their advisor, regardless of reciprocity, would have more positive student outcomes. To address Hypothesis 2, a multivariate analysis of variance (MANOVA) was conducted using student connection to advisor as the independent variable (e.g., no perceived connection, student-perceived connection, no student-perceived connection, adult-perceived connection, no adult-perceived connection) and student outcome data as the dependent variables. Results from the MANOVA indicated a significant multivariate effect for the relationship between student outcome variables on student- and advisor-endorsed connection to advisor, $F(12, 3912) = 3.18$, $p < .001$, Pillai's trace = .029, partial $\eta^2 = .010$, indicating a non-meaningful multivariate effect size. Micro-level results revealed significant univariate effects for tardy arrivals ($F(3) = 6.32$, $p < .001$, $R^2 = .014$), absences ($F(3) = 5.67$, $p = .001$, $R^2 = .013$), and failed courses ($F(3) = 4.31$, $p = .005$, $R^2 = .010$; however, there was no significant effect for number of disciplinary referrals on connection to advisor. Post hoc Tukey HSD tests were conducted on all possible pair-wise comparisons (See Table 5). Regarding tardy arrivals and absences, significant differences ($p < .05$) were present between students with no endorsed connection to their advisor and student-perceived connection to the advisor, indicating students with no endorsed connection had higher

rates of both tardy arrivals and absences. Additionally, when examining failed courses, post hoc tests showed significant differences ($p < .05$) between students with no endorsed connection to their advisor and those who had a self-perceived and advisor-perceived connection to their advisor. Students with no perceived connection had higher numbers of failed courses in their first quarter of school.

Table 5

Tukey HSD Pairwise Comparisons of Connection to Advisor and Student Outcome Variables

Dependent Variable	(I) Connection to Advisor	(J) Connection to Advisor	Mean Difference (I-J)	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Tardy Arrivals	No Perceived Connection	Adult-Perceived Connection	-.2313	.543	-.6782	.2156
		Student-Perceived Connection	-.2120*	.001	.0735	.3505
		Student- and Adult-Perceived Connection	.0022	1.00	-.2788	.2832
Absences	No Perceived Connection	Adult-Perceived	-.2996	.476	-8353	.2362
		Student-Perceived Connection	.2346*	.002	.0686	.4006
		Student- and Adult-Perceived Connection	.1561	.632	-.1808	.4930
Disciplinary Referrals	No Perceived Connection	Adult-Perceived Connection	-.0544	.940	-.2992	.1903

		Student-Perceived Connection	.0697	.085	-.0061	.1455
		Student- and Adult-Perceived Connection	.0396	.911	-.1903	.2992
Failed Courses	No Perceived Connection	Adult-Perceived Connection	.1972	.340	-.1064	.5007
		Student-Perceived Connection	.0828	.107	-.0113	.1768
		Student- and Adult-Perceived Connection	.2068*	.028	.0159	.3976

Note: *The mean difference is significant at the .05 level.

Due to the vastly uneven group sizes represented in the student connection to advisor variable in the first MANOVA (no perceived connection = 797; adult-perceived connection = 27; student-perceived connection = 413; student- and adult-perceived connection = 72), an additional MANOVA was completed wherein the independent variable was collapsed into two groups: student-perceived connection to advisor (n = 824) and no student-perceived connection to advisor (n = 485). Similarly, results indicated a significant multivariate effect for the relationship between student outcome variables on student- and advisor-endorsed connection to advisor, $F(4,1304) = 5.25$, $p < .001$, Pillai's trace = .016, partial $\eta^2 = .016$, indicating a small effect size. Significant univariate effects were found for all four student outcome variables. However, there were no meaningful Cohen's d effect sizes; effect sizes ranged from 0.004 to 0.011 (Table 6).

Table 6

Tests of Between-Subjects Effects for Student-Perceived Connection on Student Outcome Variables

Source	Dependent Variable	Type III SS	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Tardy Arrivals	10.841[a]	1	10.841	13.719	.000	.010
	Absences	16.542[b]	1	16.542	14.598	.000	.011
	Disciplinary Referrals	1.371[c]	1	1.371	5.804	.016	.004
	Failed Courses	2.738[d]	1	2.738	7.511	.006	.006
Intercept	Tardy Arrivals	407.437	1	407.437	515.630	.000	.283
	Absences	1308.498	1	1308.498	1154.748	.000	.469
	Disciplinary Referrals	26.635	1	26.635	112.796	.000	.079
	Failed Courses	103.759	1	103.759	284.611	.000	.179
Student Perceived Connection	Tardy Arrivals	10.841	1	10.841	13.719	.000	.010
	Absences	16.542	1	16.542	14.598	.000	.011
	Disciplinary Referrals	1.371	1	1.371	5.804	.016	.004
	Failed Courses	2.738	1	2.738	7.511	.006	.006
Error	Tardy Arrivals	1032.755	1307	.790			
	Absences	1481.021	1307	1.133			
	Disciplinary Referrals	308.627	1307	.236			
	Failed Courses	476.488	1307	.365			
Total	Tardy Arrivals	1518.000	1309				
	Absences	2983.000	1309				
	Disciplinary Referrals	342.000	1309				
	Failed Courses	600.000	1309				
Corrected Total	Tardy Arrivals	1043.596	1308				

Absences	1497.563	1308
Disciplinary Referrals	309.997	1308
Failed Courses	479.226	1308

a. R Squared = .010 (Adjusted R Squared = .010)
b. R Squared = .011 (Adjusted R Squared = .010)
c. R Squared = .004 (Adjusted R Squared = .004)
d. R Squared = .006 (Adjusted R Squared = .005)

CHAPTER 4

Discussion

The purpose of this study was to complete a data-driven exploratory analysis of integrated data from the Connections Project data collected over the 2016-2017 academic school year. The findings indicate that less student-perceived connectedness to adults and peers in the school building were inversely related to positive school outcome data. Specifically, students with lower levels of connectedness had a greater number of disciplinary referrals and failed courses when compared to peers with greater levels of connectedness. Additionally, students who named their advisory teacher as an adult connection had fewer instances of tardy arrivals, school absences, and failed courses. Unfortunately, student-perceived connectedness was not a significant predictor of student drop-out risk.

When controlling for the effects of disability status and socioeconomic status, students who reported lower levels of support had significantly higher rates of disciplinary referrals and failed courses when compared to peers with greater levels of support; however, level of support was not significantly related to tardy arrivals or number of absences in the first quarter. This finding provided partial support for Hypothesis 1, as it was expected that greater levels of connectedness would be related to lower rates of all four student outcome variables. This finding may be related to the fact that the Student Connections Survey and Adult Connections Survey are administered at the end of the first quarter after approximately 45 total school days. The mean number of days absent and number of tardy arrivals are 2.28 and 1.16, respectively. Results may have been different if the measure was administered at a later date given typical increases

in absences and tardy arrivals through the progression of the academic year. The relationship between levels of support and attendance and tardy arrivals may have also been influenced by the square root transformations completed on those variables. In school psychology applied practice, these results can be used to examine differences between students who would be identified as low, moderate, or high risk according to the Student Connections Survey, perhaps indicating that these students should be targeted for additional interventions under multi-tiered systems of support.

Student perceptions of adult and peer connectedness did not significantly predict school drop-out risk, contrary to the expectation that levels of connectedness would be inversely related to poor student outcomes (e.g., higher levels of drop-out risk). Therefore, these results did not extend the findings from Buchanan and Bowen (2008) to student outcome variables. Socioeconomic status was the only salient factor in the model, which included disability status, SES, adult connectedness, and peer connectedness. One possible reason for this finding is that the outcome variable only consisted of attendance data from the Rhode Island Early Warning System, as opposed to the full algorithmic model used by the Rhode Island Department of Education. The full model includes years overage, number of suspensions, NECAP reading and math scores, and the aggregate on-track percentage. Use of the full model would have allowed for the creation of a more robust measure of drop-out risk. Further, the use of attendance to measure dropout risk may have also been problematic given the well-known connection between student income level and school attendance (National Center for Children in Poverty, 2008). However, SES may have had stronger effects in this particular population given the amount of socioeconomic diversity present in the district. District-level data indicates that

the median household income in the participatory district is $67,693, whereas the per capita income is $32,073, suggesting a considerable discrepancy between the two (U.S. Census Bureau, 2016). According to the U.S. Census Bureau, "median household income" refers to the income of the householder and all individuals in the house over age 15, whereas "per capita income" is derived by dividing the aggregate income of a particular group by the total population in that group (U.S. Census Bureau, 2016). In areas where there is not such a large discrepancy in SES, this factor may not be as influential.

The importance of relationships to advisors continues to be well-supported in the literature for undergraduate and graduate students (Craft, Augustine-Shaw, Fairbanks, & Adams-Wright, 2016; Khalil & Williamson, 2014; Zhang, 2016); however, there is still a dearth of information regarding the effects of advisor-student relationships in secondary school. In the present sample, 37.1% of students named their advisor as a connection. Student-perceived connection to advisor was related to lower rates of tardy arrivals and absences. This finding adds to the body of literature that suggests that student-perceived support, rather than adult perception of given support, has a greater impact on student outcome data (Murray, Murray, & Waas, 2008). Regarding failed courses, students with no perceived connection had higher numbers of failed courses in their first quarter of school when compared to those with both a student-perceived and adult-perceived connection to advisor. In this instance, reciprocity of the endorsed relationship between students and their advisors mattered. In the present study, connection to advisor did not have any significant relationship to number of disciplinary referrals in quarter one. These findings are in line with previous research by Van Ryzin (2010), who found that 40.7%

of students who participated in the study nominated their advisor as an attachment figure. Similarly, students who nominated their advisor as an attachment figure were more engaged in school.

Limitations

Several limitations are notable in this study. First, the psychometric characteristics of the Student Connections Screening and the Adult Connections Screening have not yet been established. Only one study has explored the concurrent validity of the Student Connections Survey in relation to the Strengths and Difficulties Questionnaire (SDQ), a 25-item questionnaire developed to screen for behavioral and emotional difficulties and social skills with school-aged youth (Ruise, 2017). The study hypothesized that there would be no significant difference between students identified as "connected" (i.e., identifying more than one school connection) using the SCS and students identified as "normal" on the SDQ. Findings indicate that there is a negative relationship between students' self-reported peer connectedness and the Peer Relationships Problems subscale of the SDQ, suggesting that as peer connections increase, peer problems decrease. Thus, it is possible that these tools could be measuring similar constructs. Further, results indicated that the SCS classified students as at-risk more frequently than the SDQ, over-identifying up to 15% of students. Ruise (2017) also sought to evaluate the social validity of the Student Connections Screening. Teachers who participated in the study perceived the administration of the SCS to be useful and appropriate for the school setting, suggesting that the screening tool is practical for use by schools.

Second, the measure of connectedness is based solely on self-report at one sampling point during the school year. However, under the Response to Intervention

framework, universal screeners are typically administered multiple times per school year (i.e., Fall, Winter, Spring) to accurately track all students (National Center on Response to Intervention, 2012). Previous research has indicated that student perception of connectedness outweighs other indicators of connectedness, thereby negating the need for additional support beyond self-report (Murray, Murray & Waas, 2008). Further, no follow-up data from participating schools exists on students identified as needing Tier 2 or Tier 3 intervention, particularly with those that endorsed having no connections. The Connections Project provides a follow-up social-emotional screening assessment for students who endorsed having few connections (i.e., no connections, no adult connections, etc.; Appendix E). Also, based on anecdotal comments, in some cases, students do not understand the directions on the Student Connections Survey or they indicate that they have adult connections outside of the school environment (i.e., coaches, scout leaders). Moreover, the Connections Project does not prescribe a uniform way of completing additional intervention beyond the initial follow-up. Rather, the Project suggests the use of local resources existing in each participating school, such as previously implemented interventions (e.g., Check & Connect: Christenson, Stout, & Pohl, 2012) to follow up with students lacking connections in the school building. Longitudinal data from multiple points in the same academic year would be beneficial to determining if connectedness status changed as the result of school interventions or additional time to create connections with adults and peers.

Third, this study created drop-out risk categories based on the Rhode Island Early Warning System; therefore, the results may not be generalizable to samples outside the state. However, it should be noted that several individual districts and states (i.e., Sioux

Falls School District, Houston Independent School District, Delaware Department of Education) have implemented similar systems to track drop-out risk (Frazelle & Nagel, 2015).

Furthermore, the present study created very liberal categories for connectedness (e.g., No Adult Support, No Peer Support, etc.). This limitation is two-fold. First, the Connections Project suggests follow-up screening for students who endorse no connections and those who endorse no connections to adults with some peer connections. Given these criteria, a student who endorsed one adult connection and one peer connection was placed in the same risk category (i.e., Low Risk) as a student who endorsed three adult connections and three peer connections. This coding system increases the likelihood of Type II error in that students who are placed in lower risk categories based on one adult connection may actually be more appropriately placed in higher risk categories. Second, it would be useful to use existing Connections Project data to complete discriminant function analyses to determine if student background variables and student outcome variables could predict levels of connectedness. This process could aid in creating more rigid categories for connectedness based on associated student level variables.

Finally, the large number of zeros in the student outcome variables (e.g., tardy arrivals, absences, disciplinary referrals, and failed courses) in the present data set resulted in a highly non-normal distribution. Although the data was normalized using square-root transformations, future studies examining data from the Connections Project may want to consider the use of zero-inflated regression procedures as these statistical

methods have the capacity to handle an overabundance of zero count data (Yang, Harlow, Puggioni, & Redding, 2017).

Implications

A secondary goal of this study was to contribute to the development of the Connections Screening as a valid universal screening measure to be used to examine middle school and secondary students' connectedness to important others in their school community. Although the present study cannot offer evidence for psychometric validity or reliability, results indicate that the Connections Screening can be used in conjunction with Early Warning Systems employed by schools to provide additional quantitative and qualitative data to explain student progress and behavior. For example, the originator of the survey has used its results to target school climate issues, such as safety and social relationships for students who are new to the district. Further, future research should focus on localized measures of student connectedness that serve specific school environments.

It must be noted that the Connections Project is an on-going project that implements improvements based on feedback from the preceding year. Results from this study can be used to inform future iterations of the survey in practice as well as research. The Connections Project may want to consider including additional demographic data, such as gender, racial or ethnic group in future administrations. If used for research purposes, investigators may also want to gather additional measures of socioeconomic status, such as parental income level or parental education level. Researchers could also consider using the Student Connections Survey and the Adult Connections Survey with student subpopulations such as students with identified disabilities or students who

identify as LGBTQ. Further, it may be beneficial for schools implementing the Connections Project to collate data that aligns with their state's early warning system to track students who are at-risk of dropping out. Finally, the Connections Project might also consider including a third aspect of student connectedness, connectedness to the school itself, as delineated by Lohmeier and Lee (2011). To achieve this end, the Student Connections Survey and Adult Connections Survey could be administered alongside psychometrically sound measures of school climate.

Appendix A

Glossary of Terms

504 plan. Documentation outlining mechanisms by which a school will provide a free and appropriate education to students who have a documented physical or mental impairment that substantially limits one or more major life activities (U.S. Department of Education, 2015)

Advisory/Advisory program. A scheduling configuration in which an adult advisor meets regularly during the school day with a group of students to provide academic and social-emotional mentorship and support, to create personalization within the school, and to facilitate a small peer community of learners (Shulkind & Foote, 2009)

Identified status. Referring to special education status; whether a student qualifies for a disability under an individualized education plan or a 504 plan (Martin)

Individualized education program (IEP). Individualized document written for children with disabilities that details the educational program designed to meet the child's unique needs (U.S. Department of Education, 2000)

Middle school. School that serves pre-adolescent and young adolescent students between grades five and nine, with most middle schools serving grades six through eight (U.S. Department of Education, 2008)

Response to intervention (RTI). Multi-tiered system of support designed to assist all students with learning and behavior needs; consists of three tiers: universal, targeted, and intensive (National Center for Learning Disabilities)

Secondary school. Also referred to as "high school." School that serves students in upper grades, generally grades nine through 12 (U.S. Department of Education, 2008)

Universal screening. Brief assessment of all students conducted at the beginning of the school year designed to identify students who may be at risk for poor learning outcomes (National Center on Response to Intervention, 2012)

Year of graduation. The year in which a student is scheduled to graduate high school based on their current class standing and credits earned; the class cohort to which a student belongs.

Appendix B

Student Connections Survey

Name of School
Confidential Connections Survey

Name: _____

Directions: Please list the name(s) of one or more adult(s) and peer(s) in this building whom you feel you have a good connection with. These should be people that you trust, you know care about you, and you feel you can talk to if you have a problem.

I have a good connection with the following adult(s) at *Name of School*:

1. _____

2. _____

3. _____

☐ Place a check in this box if you feel you DO NOT have a good connection with any adult in the building.

I have a good connection with the following peer(s)/classmate(s) at *Name of School*:

1. _____

2. _____

3. _____

☐ Place a check in this box if you feel you DO NOT have a good connection with any peer in the building.

If you have any questions/concerns, please contact the School Psychologist or your Guidance Counselor.

Appendix C

Adult Connections Survey

Name of School
Confidential Connections Survey

(Adult) Name: _____

Directions: Please list the names of up to 6 students in this building whom you feel you have a good, personal connection with. These could be students who seek your advice/guidance for personal or academic matters. (Teachers: they may not necessarily be current students in your classes.)

I have a good, personal connection with the following student(s) at *Name of School*:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

If you have any question/concerns regarding this form, please see any member of the RTI Problem-Solving Team.

Appendix D

Cover Letter

THE
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HEALTH SCIENCES

THINK BIG WE DO℠

DEPARTMENT OF PSYCHOLOGY
Chafee Hall, 142 Flagg Road, Kingston, RI 02881 USA p: 401.874.2193 f: 401.874.2157 web.uri.edu/psychology

MMM DD, 2017

Hello School Department Superintendent,

My name is Erin Churchill. I am currently a third-year doctoral student in the APA-accredited, NASP-approved School Psychology Program at the University of Rhode Island. For the last two years, I have worked closely with the Connections Project as a data analyst. One of the schools in your district is involved in the Connections Project. During that time, I have become interested in looking at student connections and social-emotional learning in my own body of research.

My proposed thesis project seeks to gain a better understanding of the data provided by the Student Connections Survey and the Adult Connections Survey. I intend to use the combined de-identified data from each of the six participating schools to examine the relationship between Connections Survey data and school outcome data (e.g., tardy arrivals, absences, disciplinary referrals, and failed courses). Additionally, I intend to examine the relationship between student-advisor connection and those same school outcome variables. I feel that my study will contribute to the current body of literature on the importance of student connections to school dropout prevention and student retention.

Collectively, my major professor, Dr. Margaret Rogers, Kim Pristawa, and I have created a letter of authorization to be signed by each of the participating schools' superintendents. The text that is italicized in red is intended to be personalized for each school. Additionally, the IRB requires that the letter be placed on department letterhead. Please note that all data shared with me will be coded numerically and will not contain any identifying information.

If you feel comfortable with this request, please place the attached letter on district letterhead, sign, and return to me by April 19, 2017. If you would prefer to discuss this request further, feel free to email me at edchurchill@my.uri.edu or call at (928) 8141196. You can also email my major professor, Dr. Margaret Rogers, directly at mrogers@uri.edu.

Thank you very much for your time and consideration.

Best regards,

Erin Churchill
University of Rhode Island
School Psychology Graduate Student
Connections Project Data Analyst

Dr. Margaret Rogers, Ph.D.
Professor, School Psychology
University of Rhode Island
Kingston, Rhode Island 02881

Appendix E

Follow-Up Social-Emotional Screening

Connections Survey: Follow-Up Social-Emotional Screening

Name of Student: _____ YOG: _____
Person completing follow-up: _____ Today's Date: _____

Student's Connections Survey responses from DATE:
___ adult connections ___ peer connections

Part 1: *Engage in a discussion with student about how they are presently feeling about school and their relationships in school; find out if they truly feel disconnected or if they just refused to complete the survey / didn't take it seriously / didn't answer truthfully, etc.*
Based on the student's discussion with you, select one of the following:
___ student still reports the same data (**Do not ask them to repeat survey! Continue with Part 2 to assess outside connections, skip Part 3**)
___ student reports they did not feel like completing it, did not take it seriously or answer truthfully (**continue with Part 2 AND Part 3**)
___ student reports they have new connections (**continue with Part 2 AND Part 3)**
___ student reports other information: _____
(continue with Part 2 AND do Part 3-if appropriate)

Part 2: Does student feel they have any adult connections outside of school? Y or N
If so, with whom:

___ parent/guardian
___ adult sibling/ adult cousin
___ grandparent
___ aunt/uncle
___ neighbor
___ coach/mentor outside of school
___ outside counselor / support person
___ other: _____

Does student feel they have any peer connections outside of school? Y or N
If so, with whom:

___ sibling
___ cousin
___ friend in another school district
___other:_____

In your opinion, how does this student appear to be functioning right now?

1	2	3	4	5
Very Poor	Poor	Fair	Good	Very Good

Part 3: Did student agree to complete another survey today? Y or N

Student's Connections Survey responses after completing today's survey:
___ adult connections ___ peer connections

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